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## **Chronic Disease in the Canadian Hospital Program<sup>1</sup>**

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There is no doubt that chronic disease is responsible for some of the greatest and most complex problems facing health workers in Canada today. A study of morbidity and mortality statistics indicates that while many acute conditions have bowed to medical progress, chronic disease has not been as amenable to prevention and treatment. Heart disease, neoplasms, disability following accidents, cerebrovascular conditions, arthritis and the like, all exact a heavy toll in human suffering, and place a substantial burden on our health resources. The prevention and successful treatment of chronic disease is the great health challenge of the future.

This does not mean that progress has not been made, nor does it mean that this progress has not been substantial. Diabetes, syphilis, pernicious anaemia, nutritional deficiencies and many other conditions leading to chronic illness have been largely controlled, and poliomyelitis has recently shown prospects of being added to this list. Modern methods of therapy and rehabilitation can and do work miracles in minimizing the effects of chronic illness. However, it must be admitted that in the past, chronic diseases have not received the attention they deserve and a careful re-appraisal is necessary. The implementation of the Hospital Insurance and the Laboratory and Radiological Services program in Canada makes further planning in this field essential.

While chronic disease affects all ages, a preponderance of cases suffering from long-term illness are in the older age-group. Life expectancy is on the increase and therefore we will be more and more concerned with the control of chronic illness in the future.

<sup>1</sup>Presented before the Medical Care Section at the forty-fifth annual meeting, Canadian Public Health Association, Toronto, May 27-29, 1957.

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In this paper, I shall focus attention on chronic disease in the present Canadian Hospital Program (excluding from this discussion tuberculosis sanatoria and mental institutions).

As a preface, I would like to review the various levels of medical care established for both acute and chronic illness in Canada. It is important, in dealing with hospitalization, to have an accurate appreciation of other services.

#### LEVELS OF CARE FOR CHRONIC ILLNESS\*

The pattern for care of chronic illnesses in Canada (and in many other countries) provides for service in hospitals, rehabilitation centers, nursing homes, domiciliary institutions, physicians' offices and medical clinics and the home. While one can foresee special requirements and variations in this pattern in the future, this general arrangement appears to provide for essential levels of care.

In establishing any program for hospitalization, it will be important to ensure that care is provided at the level required for the particular patient. This principle has humanitarian as well as economic benefits. It involves not only a careful appraisal of the facilities required, but also an assessment of the needs of the individual patient. The care of long-term illness is of concern not only to the medical profession, but also to other health workers such as nurses, public health personnel, physiotherapists, occupational therapists, laboratory and X-ray workers and many others in the paramedical field. Social service is an important adjunct in the re-establishment of the chronically ill within the community. Health and welfare agencies play an important role and provide valuable service. It will be evident that any program dealing with chronic illness will need to provide for co-ordination of these services, in order to prevent artificial restrictions on the movement of patients between various services as indicated by the specific needs which exist and as these needs vary from time to time. The medical profession and public health departments should provide leadership to ensure that service is adequate, of high quality, and that it meets the medical and social needs of the people.

#### TYPES OF HOSPITAL CARE REQUIRED FOR CHRONIC DISEASES

Many chronic diseases which have an acute onset are subject to acute exacerbation, or occasionally require remedial treatment similar to that pro-

**\*Footnote:**

*Chronic Disease* "comprises all impairments or deviations from normal which have one or more of the following characteristics: are permanent: leave residual disability: are caused by nonreversible pathological alteration: require special training of the patient for rehabilitation: may be expected to require a long period of supervision, observation, or care".

*Long-term patients* are "persons suffering from chronic disease or impairments who require a prolonged period of care, that is, who are likely to need or who have received care for a continuous period of at least 30 days in a general hospital, or care for a continuous period of more than 3 months in another institution or at home, such care to include medical supervision and/or assistance in achieving a higher level of self-care and independence".

*Reference:* Chronic Illness in the United States. Volume II: Care of the Long-Term Patient. Report of the Commission on Chronic Illness.

vided for acute illness. This type of hospital care is found in the average general hospital and the treatment of chronic illnesses, when they require this type of service, does not present any particular problem.

The hospital problem which is peculiar to chronic disease is the type of service required for patients who need prolonged hospital treatment. While many of the basic facilities needed for acute illness will be required for long-term patients, the degree to which they are provided will vary with the type of case admitted to the institution. For example, facilities for surgery will not be required to the same extent as for acute conditions and laboratory arrangements will be modified to provide the essential tests required for chronic disease. Rehabilitation should be emphasized in both acute and chronic care, but occupational therapy may play a greater role in the treatment of the long-term patient. Furthermore, social service will be particularly important because of the long separation of the individual from the family and community. Requirements within a particular hospital will vary with the resources already available in the area and with the role of the particular unit in the over-all program of total health care.

The question of whether facilities for long-term patient-care should be separate institutions or wings of general hospitals, remains unresolved. Many authorities argue that these patients should be cared for in a general hospital and that such a hospital should be prepared to provide all levels of hospital service. They insist that this is the only way of ensuring continuity of care. Others are just as definite and state that this type of arrangement leads to the neglect of long-term patients. It seems to me that we in Canada might well adopt a middle of the road course—setting up arrangements which appear to meet best the needs of the particular community and province. Wings of general hospitals may be the answer in some localities, while in others, separate institutions closely allied to general hospitals may be preferred. I have seen examples of successful programs in which both methods are used, either alone or in combination.

#### HOSPITAL BEDS FOR LONG-TERM PATIENTS

The existing hospital-care system in Canada is organized primarily for the treatment of acute illness rather than for long-term patient-care. Some long-term patients occupy beds in almost every general hospital, despite efforts to limit or exclude the admission of such cases. Special chronic and convalescent hospitals or special units attached to general hospitals have been developed in various provinces for the long-term patient, and the estimated number of beds was 13,270 at the end of 1956. The bed population ratio increased from 0.5 beds per thousand population in 1948, to 0.8 beds per thousand in 1956. Beds under construction in 1956 will increase this ratio to 0.9 per thousand.

Various methods have been established to indicate the number of beds required for the hospitalization of long-term patients. The per capita figure is frequently used and the estimated need, using this technique for calculation, varies from 1 to 2.6 beds per thousand of population. It will be noted in figure I that several of our provinces are close to the figure of 1 bed per thousand of population and in the case of one province, this number is exceeded. Others

suggest that as the vast majority of such beds are needed for the care of elderly people, it would be more accurate to express the need for such beds in terms of population of 65 or over. Using this method of calculation, the need has been expressed as 28 to 32 beds per thousand of this population. The volume of service required by the population is used also as a yardstick to determine hospital bed requirements. However, these and other figures should only be used as a guide, and I would suggest that a careful appraisal precede any extensive development in providing additional beds for long-term patients. The points that might be considered in such an appraisal are:

- Population trends in the area with an estimate of the proportion of population in the older age groups
- Type of area to be served whether urban or rural, and transportation facilities
- Location of the proposed unit with regard to the population served. Isolated institutions are often avoided by patients and relatives
- Other facilities which are available for long-term care, including those providing custodial care. Are these facilities being effectively used?
- Relationship of the proposed unit to acute hospital facilities, with an assessment as to whether a reasonable balance between acute and chronic care is being maintained
- Ability to staff and maintain arrangements to ensure high quality of medical care
- Whether there is an association with a teaching program which could affect the type of case admitted, the care, and the duration of stay
- Whether such development fits in to the over-all program for the particular province, having in mind the possible advantage of regional development, at least in the beginning.

#### EFFECTIVE UTILIZATION OF HOSPITAL BEDS PROVIDED FOR LONG-TERM CARE

The effective utilization of hospital beds for long-term care is a matter of the greatest concern in the present and future development of a hospital program in Canada. Everyone agrees that an individual should be able to obtain hospital care when such a service is required. On the other hand, most people support, in principle, the idea that hospital resources should be refused to persons not in need of that level of care. However, it has been found that regardless of how adamant an individual is concerning this philosophy, when an occasion arises where he or she is personally involved, and a relative or friend would find it more convenient to use hospital facilities, these principles are forgotten and pressure is brought to bear on the physician and hospital concerned.

Effective utilization is not a matter that we can put aside because it is difficult or because it is likely to impinge on sensitive areas of public or professional relations. Its solution—or even partial solution—will have an important bearing on the quality of medical care that we can afford in Canada in the future.

It would be presumptuous of me to attempt to offer a solution to this complex problem. However, I would like to suggest a few general criteria which might apply.



FIGURE I—ESTIMATED CHRONIC AND CONVALESCENT BEDS AVAILABLE AND BEDS AVAILABLE PER 1000 POPULATION, 1948, 1955 AND 1956

Province	Estimated Beds Available				Estimated Beds Available per 1000 Population			
	Dec. 31, 1948	Dec. 31, 1955	Dec. 31, 1956		Dec. 31, 1948	Dec. 31, 1955	Dec. 31, 1956	
			Existent	Existent & under Construction			Existent	Existent & under Construction
Nfld.	147	128	128	128	0.4	0.3	0.3	0.3
P.E.I.	0	0	57	57	0	0	0.5	0.5
N.S.	26	84	104	104	0.1	0.1	0.1	0.1
N.B.	26	115	168	168	0.1	0.2	0.3	0.3
Que.	2627	4293	4293	4549	0.7	0.9	0.9	0.9
Ont.	2090	4845	5078	5212	0.5	0.9	0.9	0.9
Man.	520	807	829	859	0.7	0.9	0.9	0.9
Sask.	79	50	50	92	0.1	0.06	0.05	0.1
Alta.	160	665	706	788	0.2	0.6	0.6	0.7
B.C.	1039	1857	1857	1987	1.0	1.4	1.3	1.4
Canada	6714	12844	13270	13944	0.5	0.8	0.8	0.9

*The needs of the patient must be paramount but these must be related also to the needs of others*

We are not dealing with an assembly line approach but rather with establishing a program which takes into account the health and well-being of our people in the broadest sense. In this regard I would like to quote from Dr. Roth's presentation in which he states "and all of this must be done in a way that will not lead the patient to feel that he is being sent from pillar to post. His dignity, his interest, and his co-operation must be maintained, for without these—all efforts are in vain."

*A free flow of patients between various levels of care must be ensured*

These arrangements will call for close co-operation between health and welfare groups. Bottle-necks and barriers will occur, but these can only be minimized by the effective use of all available resources.

#### *Admission Policy*

An admission policy must maintain the basic concept of a close doctor-patient relationship. This is a feature of the practice of medicine in Canada which has demonstrated its value over the years. However, some aspects of this relationship may have to be re-examined in the light of present-day requirements.

An admission policy must take into consideration (a) the type of case to be admitted, (b) the procedure essential for admission.

(a) TYPE OF CASE

This will depend on the role of the particular unit in the over-all health care program for the area. One classification of the type of case which might be admitted to a unit providing a comprehensive service is as follows:

- Persons with a favourable rehabilitation prognosis
- Those with a doubtful rehabilitation prognosis
- Progressive disease which can be alleviated temporarily by hospital care
- Terminal conditions requiring hospital care.

The common denominator is that they all require "hospital" care. When such a comprehensive classification is used as a basis for admission, it is necessary to maintain a reasonable balance between the various categories. Terminal conditions may account for 10 to 30 per cent of patients in such a unit.

(b) PROCEDURE ESTABLISHED FOR ADMISSION

Priority for admission should be based primarily on medical need with consideration also being given to social circumstances. Patients will be referred, in the first instance, by private practitioners, hospitals, or other institutions. However, most programs place the final authority for admission with the medical staff of the unit, or with a screening committee set up for the purpose. This helps to ensure that beds are available for those with the greatest need. It is not suggested that this is an easy matter to resolve, or that this is the only way of establishing a screening procedure. Any method that is developed must be worked out in close consultation with the medical profession.

RE-EVALUATION OF PATIENTS IN HOSPITAL

Cases are admitted for long-term hospital care because they need active treatment or extensive investigation. A good medical and social work-up should be obtained for all new admissions. Cases in hospital should be re-assessed frequently to ensure that the best possible treatment is being provided and that continuing hospital care is necessary. A team approach has been found useful for this re-evaluation. It encourages close co-operation and understanding between the representatives of the various professions concerned with the medical, social and economic needs of the individual. It helps to ensure continuity of service.

DISCHARGE AND RE-ADMISSION ARRANGEMENTS

The hospital care of patients on a long-term basis results in the separation of such individuals from normal community life for considerable periods of time. The majority are elderly people and family ties may be shaky or non-existent. It is frequently difficult to make satisfactory arrangements for the discharge of such patients but the whole hospital program will stagnate if they are not discharged from hospital when they no longer need this level of care. Once again, it is not too difficult to get acceptance of this general principle but it is a different matter when personal interests are involved. Many cases will need further custodial care in welfare institutions. Assistance from voluntary agencies and public resources will frequently be required.

Cases discharged from hospital with conditions which are subject to remission should be assured that they will be re-admitted if hospital care is again required.

Arrangements for the discharge of patients will be a responsibility of the social service department of the hospital in close co-operation with the medical staff and will be one of its most important and difficult assignments. It is not a matter which is arranged when discharge is imminent. It should be an integral part of the patient's assessment which includes not only treatment but also resettlement. It should receive consideration first when admission is being arranged, and should be kept under active review during stay in hospital.

#### STAFFING OF LONG-TERM HOSPITAL UNITS

Under this heading, I propose to limit my remarks to a general consideration of arrangements in four areas, namely medical, nursing, rehabilitation and social service staff. Any figures which are mentioned are included only as a rough guide, and relate to programs studied in Canada and elsewhere.

Adequate medical staff should be provided to ensure a high quality of medical care. Many long-term patients do not have a private physician, or the location of the unit may make it difficult for the family physician to provide continuing care. Because of these and other factors, most programs have found it necessary to employ physicians on a full or part-time basis. Where an open hospital principle is maintained, provision is also made for continuing care by the family physician. Medical staff requirements are usually met by providing the equivalent of the services of a full-time physician for every 75 to 150 patients in the long-term unit. In addition, consultant services are needed, either on a part-time or fee-for-service arrangement. In one program involving three hospitals, over-all supervision of medical care was provided by three physicians—a medical administrator, an internist, and a psychiatrist.

In hospital units for long-term patients team nursing is stressed and greater emphasis is placed on the role of the nursing auxiliaries (nursing assistants, aides, and orderlies). An average estimate of nursing requirement for such programs is about three hours of nursing care for each twenty-four hours. Some programs provide as much as four hours for this period. The ratio of nursing staff to patients varies from 1 nurse or nursing auxiliary to every 2-3 patients. The ratio of registered nurses to auxiliaries varies from 1 registered nurse to 2-5 auxiliaries.

An active rehabilitation program is essential for every long-term hospital unit. Direct medical supervision is essential and qualified physicians should prescribe the treatment. Many such programs are under the direction of internists with special training and interest in rehabilitation. A few of the larger units have psychiatrists. Physiotherapists, occupational therapists, remedial gymnasts, speech therapists, social workers, and so forth, all have a place in a program designed for the maximum benefit of the long-term patient.

The social service department assumes an increasing importance in units dealing with long-term illness. Unfortunately, social service is frequently the

weakest part of the program. Staff in this department will be concerned with the many and complex social problems which have an important bearing on the health and welfare of the individual. They provide the link between the patient and the community. Their activities are not confined to interviews in hospital, but also include visits to the home, talks with other individuals, arrangements with other institutions and voluntary agencies. The generally accepted case load which a medical social worker can handle effectively, varies between 40 and 50 active cases. Two Canadian hospital programs might be mentioned as examples. One hospital, with over 700 beds, employs a Director of Social Work and 18 case workers. In the other case, with about 1500 beds, the department consists of a Director, 2 supervisors, 10 case workers and a psychologist.

#### TRAINING OF PERSONNEL:

One of the greatest barriers to the setting up of services for long-term patient care will be a shortage of practically all classes of trained personnel. In addition to this shortage, it must be admitted that caring for the chronic sick has not been a popular field with the professions. It has usually been considered as uninteresting and depressing. This attitude is understandable, and relates to the way these conditions were cared for in the past. Therefore, program planners have a double challenge—the over-all shortage of personnel, and the difficulty in interesting trained people in this field of work. One suggestion which deserves serious consideration is that primary emphasis should be placed on the development of long-term patient care units either in or associated with university teaching hospitals. These units would assist with training of personnel, and at the same time would be located in places where trained people are most likely to be available. The whole problem needs careful study at local, provincial and national levels.

#### RESEARCH:

Research in chronic illness is one of the most important fields of medical and social investigation. A great deal is being done and substantial support is being provided by the Health Grants and funds from other official and voluntary sources. Such a program should include research in planning and administration, with a careful investigation and evaluation of methods and techniques of care. Prevention should be emphasized, with research into the etiology, prevention and control of chronic conditions. At least some of the long-term hospital care units associated with universities should participate in this program of planned investigation.

#### SUMMARY

The prevention and control of chronic disease is the great health challenge of the future. Medical, social and economic factors will need to be studied carefully. Long-term patient-care in hospital is one of the most difficult aspects of the problem. It should be developed in a way that will ensure a high quality of care at reasonable cost. Team work will be of the essence, as we are concerned with the total health care and welfare of the individual.

# Provision and Payment of Diagnostic Services<sup>1</sup>

## A SYMPOSIUM

### A. THE PATHOLOGIST VIEWPOINT

H. G. PRITZKER,<sup>2</sup> B.A., M.D.

IT might be wise, at the outset of this paper, to state that the word "pathology" will be used synonymously with clinical pathology, to include all branches of laboratory medicine, such as morbid anatomy, bacteriology, biochemistry, hematology, serology, blood banking, etc. Furthermore, it should be pointed out that as far as pathology is concerned, the present status of medical science requires laboratory aids for the prevention and treatment of disease as well as for diagnosis.

Years ago most hospitals had a very small laboratory or none at all. The few pathologists available at that time were mostly teachers of pathology in university centers and did not practise laboratory medicine as it is known today. Parenthetically it can be stated that a so-called private practice of pathology in an independent office laboratory, comparable to practice by other specialists became exceedingly difficult in most parts of Canada because of the services offered by provincial public health laboratories, at little or no cost to the physician and patient using these services.

Hospitals in order to keep pace with the advances in medical science and upon the advice and urging of their medical staffs have greatly increased the size and scope of their laboratories. In most hospitals this change has been brought about wisely and in consultation with the hospital pathologist.

Over the period of years, there has also been an increased demand for clinical pathological services and along with this there have been pyramiding costs of hospitalization. In an attempt to secure additional revenues, hospitals naturally began to look to these expanding clinical pathological services as fruitful sources. Thus many hospitals have, more or less, gradually moved into the field of medical services for which they charge medical fees or the equivalent. This policy tends to establish a dangerous and invidious precedent. It transfers the ultimate responsibility for medical service to what is primarily a lay organization. It is possible to foresee that when particularly hard-pressed for revenue, a hospital or institution might desire to make the clinical pathological laboratory a paying rather than a progressive department. This would eventually result in deterioration of the calibre of the medical personnel involved. The quality of the work performed would ultimately be reflected in inferior patient care.

<sup>1</sup>Presented at the forty-fifth annual meeting of the Canadian Public Health Association, Toronto, May 27-29, 1957.

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### *Trends in Recent Years*

Certain trends in laboratory medicine have become established. It has been found, for example, that some hospital laboratories established within the past five years have already outgrown their facilities. Figures show that in the past fifteen years the volume and diversity of laboratory services performed per patient have more than doubled and the trend is that this increase will continue as the practice of medicine continues to develop and expand. These facts emphasize that the size, equipment and personnel of the clinical pathological laboratory should depend upon the number and complexity of the services performed rather than on the number of patients investigated. It also follows, therefore, that the income required by a clinical pathological laboratory must be correlated with the volume and type of service performed as well as the actual number of specimens submitted.

### *Fundamental Principles*

Because of the developments outlined above, the association between hospitals and pathologists has been close and, for the most part, amicable. However, those relationships have been rather ill-defined and certainly not uniform. Today, with the increasing participation of third parties, whether private or governmental, as carriers of costs of medical services, we pathologists feel that a clear-cut distinction should be made between what is hospital care and what is medical care. The Canadian Association of Pathologists has prepared a list of principles both for hospitals and for pathologists and for any third party which may be carrying the costs of the services.

The most important factor, of course, in any set of principles, is to make sure that the patient receives the highest possible standard of laboratory medicine. It is our aim and a matter of policy to do everything we can to provide patients throughout the country with a high standard of pathological service.

Medicine has progressed far enough today that there should be no question any more as to the nature of pathology. Accrediting boards and courts of law have ruled that pathology is a specialty in the practice of medicine. It follows then that the services performed by licensed medical practitioners in this specialty are medical services and not part of hospital care. In other words, a hospital having a pathology laboratory is actually offering its patients a medical service.

In order to ensure a high standard of service, it is imperative that a licensed physician, preferably a certified pathologist, should be in charge of each hospital laboratory. Even the smallest of hospitals, having a laboratory employing only one technician, should never impose the full responsibility of the operation of that laboratory on a technician. Instead, some member of the medical staff must assume responsibility for the operation of the laboratory. If the services of a pathologist are available in the immediate territory, then that pathologist can be engaged on a part-time basis to supervise the laboratory and be responsible for it.

It should always be remembered that pathologists are held responsible for the work of their technical laboratory staff. While technicians form a very important part of any laboratory, they are, as one authority has put it, "the



hands of the pathologist" just as nurses might be extra hands for the physician or surgeon.

Quality control of any medical service is a most important item. We pathologists have agreed that through the provincial branches of the Canadian Medical Association, we will assume responsibility for establishing standards to ensure the quality and accuracy of pathology as practised in Canada.

#### *Payment for Services*

It has been shown above that the actual number of patients in a hospital bears no particular relationship, as a rule, to the activity and demands placed upon the department of pathology.

The number of procedures required per patient is determined, to a great extent, by the nature of the individual's illness and the diligence of the physician or surgeon looking after the patient. Furthermore, as pointed out above, the trend is, in recent years, for more and more laboratory procedures to be performed for each patient. This is good and promotes better medical care. It seems reasonable, therefore, that payment for these pathological services should be on a fee-for-service basis, whether this payment be made directly by the patient or by a third party. Furthermore, fees should provide adequate coverage for all expenses associated with the provision and maintenance of a first-class pathological service. To be specific, the fees should be sufficient to provide enough income for the laboratory to look after the post mortem service, to conduct some investigation in the laboratory, to hold clinical pathological conferences, to teach interns, nurses and student technicians, to allow for the expense of working up interesting cases by means of photography and other methods. The fees should also be of a sufficient nature to ensure that enough personnel is available to handle the work properly and accurately and that they are compensated properly. These fees should be adequate to compensate the hospital for light, heat, power, space and any other costs involved in maintaining the laboratory.

In all fairness to the individuals paying the fees, the revenue derived from the clinical pathological services should be applied to those services alone. We have found that the pathology fee schedules adopted by provincial medical associations or some modification of those schedules, should be the basis for the charges for the services, since they take into account the needs of most laboratories.

It is not good practice, in fact the matter might be open to question, for an institution to offer the services of a medical practitioner and charge a patient for those medical services. Therefore, we feel strongly that any billing for pathological services should include the name of the doctor concerned. If both parties deem it advisable, there may be included as part of the bill a statement as to what proportion of the charge reverts to the hospital for the non-professional services and facilities which have been provided by the hospital.

Finally, as there is today almost universal agreement that the services rendered by pathologists and by the pathology laboratory are medical services, we feel strongly that the fees or charges for these pathological services should be paid for as medical and not as hospital services. Hence it might be

more proper for carriers of costs of medical services to pay for clinical pathological services rather than carriers concerned with providing for hospital services.

It is our hope that implementation of the above principles which today are considered sound ones by thinking people will establish well-defined working relationships between hospitals and pathologists, so that the clinical pathological services upon which good medical care depends will be enhanced and not compromised.

## B. THE RADIOLOGIST VIEWPOINT

D. C. MACNEILL,<sup>1</sup> B.A., M.D.

I consider it, indeed, an honour to address you today on the subject of provision and payment of radiological diagnostic services in Ontario. Although I have no qualifications to speak on strictly economic matters, I believe most sincerely that a satisfactory solution to the general coverage of the people of Ontario for diagnostic services depends on the full co-operation of all groups concerned. Thus I am here to speak for the radiologists, who must, by and large, supervise this service no matter where it is rendered or how it is paid for.

In Ontario, there has been established a very high quality of diagnostic accuracy in hospitals, clinics and private offices. Not a small share of the credit for this must go to the group I represent, namely, the Section of Radiology of the Ontario Medical Association. Our group includes about 135 physicians, certified by the Royal College of Physicians and Surgeons of Canada in the field of diagnostic radiology. Other members of the profession are enrolled in the section because of their interest and experience in this field. It is our very firm belief that this section of the profession in Ontario must take strong leadership in the maintenance of the high standards of diagnosis afforded by our specialty. No compromise must be made under any scheme of health insurance coverage which might jeopardize those standards. I will refer to such possibilities later.

My personal feeling is that the continued provision of high quality diagnostic radiological services is the most important aspect of this paper. However, I will endeavour to show that the methods of payment for such services might well influence the quality, particularly where a large increase in demand for these services is to be expected.

Let us examine the various major sources where these services may now be obtained in Ontario. These are the public hospitals, the sanatoria for tuberculosis, mental hospitals, the private offices of certified radiologists, certain clinics having a certified radiologist on their staff and finally, other clinics and doctors' offices.

The public general hospitals of Ontario provide the greatest number of total diagnostic examinations through their departments of radiology. Almost all of these departments are directed by a radiologist certified at least in diagnostic radiology by the College of Physicians and Surgeons of Canada. The hospitals of Ontario have recognized that the quality of service rendered in these departments depends primarily on maintaining this standard of direction and that wherever feasible it should be full-time. Furthermore, the

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radiologist in charge must have reasonably complete autonomy as to his staff and equipment. The International Commission on Hospital Accreditation insists on this type of direction and is also insistent on written and signed reports on every fluoroscopic and radiographic procedure conducted on a hospital patient, the original copy of which is permanently preserved on the patient's hospital record.

The continued provision of this type of hospital service depends on the continued enlistment of doctors training in the specialty of diagnostic radiology. If this specialty becomes less attractive to graduates in medicine, either through increased patient loads or reduction in recompense as compared to other medical specialties, the supply of trainees in radiology in Ontario will dwindle far below the figure necessary to meet the needs under any scheme of health insurance.

The departments of radiology in public general hospitals are at present examining large numbers of out-patients as well as patients in hospitals. The proportion of each in my own hospital is approximately 50%. Most of these departments are working at close to maximum capacity. Some departments are examining heavy patient loads under very adverse conditions. The Section of Radiology feels that an ever-increasing proportion of examinations in these departments will be in-patients. The ratio of total in-patient examinations to total number of patient-days in any one year will increase very significantly. Many patients in hospital now would receive more extensive radiological work-up if they were covered by health insurance without upper limit.

What will be the result of this trend on the operation of departments of radiology? In-patients will be given priority to prevent lengthy hospital stays and the out-patient coverage must suffer. Elective examinations on out-patients will accumulate and long waiting periods for such studies will ensue. This is exactly what has happened in British Columbia. The B.C. hospital radiologists are desperately trying to keep pace with the demands but are not successful and many out-patients are being examined in the offices of private radiologists at their own expense rather than wait weeks for a "free" examination in hospital. Further, the B.C. hospitals have been unable to attract assistants to aid the too few hospital radiologists as the salary arrangement offered by the B.C. hospitals, necessitated by the plan's budget, is not attractive to radiologists from other parts of Canada. In fact, some hospital radiologists have left hospital practice to establish their own private offices where working conditions and budgets are under their own control and income levels are higher. I am quite safe in saying that a similar exodus from Ontario hospitals of a significant number of our section is inevitable if careful thought is not given to the problems to which I am referring today.

Thus the paramount factor in the continued provision of high quality diagnostic radiology in the hospitals of Ontario is insurance of direction by radiologists without unrealistic controls by laymen, be they hospital administrators or civil servants. The Ontario Medical Association, through its Section of Radiology is prepared to recommend machinery to control such factors as the number of radiologists servicing a department, the amount and type of equipment, the number of technical personnel and the use of supplies. Over-utilization of radiological services is a more difficult problem to approach but

this problem can also be kept within reasonable limits through the full co-operation of all members of the Ontario Medical Association including radiologists.

Provision of radiological services in sanatoria for tuberculosis and the out-patient clinics conducted by them is a specialized field of medicine and is best provided by those who are responsible for the clinical care of patients in these institutions. A radiologist should be enlisted as a consultant member of their staffs to assist in diagnostic problems of a more general nature. Again in reference to the Ontario mental hospitals, more extensive radiological coverage will be required along with other advances in treatment. Until more radiologists become available a part-time consultant to these institutions must suffice.

The private offices of certified radiologists and the departments of radiology of some of the larger clinic groups in Ontario cities provide a very significant percentage of the diagnostic radiology done in the province. For example, in the city of Hamilton such services represent slightly more than half of the total number of examinations performed in the area despite the presence of two large general hospitals. The quality of work provided in this way is of the highest as very often there is a direct radiologist-patient contact which can not always be obtained in the very busy hospital department. These services must be utilized to their fullest to cover the increased load of a diagnostic health plan designed for the majority of people in the province. It is the feeling of the Section of Radiology and of the Ontario Medical Association that coverage of examinations done in such private offices and clinics should be provided at the same time that out-patient coverage in hospital departments of radiology is introduced.

Provision of services in general practitioners' offices, the offices of specialists certified in fields other than diagnostic radiology and in clinics where the films are not interpreted by a certified radiologist also comprise an appreciable number of the diagnostic studies done during a year. The Ontario Medical Association estimates well over 200 such offices where X-ray equipment is installed and in many localities no other X-ray facilities are available. The Workmen's Compensation Board and the Ontario Medical Association Tariff both recognize the use of this equipment but only pay 75% of the full fee for examinations performed in these offices and interpreted by a physician not certified in diagnostic radiology. Further, the Workmen's Compensation Board reserve the right to refuse payment for services rendered to injured workmen in any X-ray office or department of radiology if the quality of the examination as shown by the films and rendered report is not up to standards arbitrated by their consultants in radiology. It is my personal belief that the X-ray facilities enumerated above could eventually render valuable service in a health insurance scheme. The Section of Radiology through the Ontario Medical Association would again be prepared to assist in extending coverage to patients examined in these facilities, using some type of control such as that outlined above in Workmen's Compensation cases.

Provision of services in outlying areas of the province is somewhat tied in with the previous discussion as at the present this is the only service available. During the initial phases of development of health insurance in Ontario, these outlying areas will continue to be covered in this way. The question is whether

to make facilities universally available by government subsidy over and above the usual cost of the service provided or to have the government develop its own diagnostic centers in outlying areas. This problem will require much further study to reach the most economical solution without jeopardizing quality of service.

Payment for these diagnostic radiological services must, of course, cover the entire cost of performing the examination. The Premier of Ontario has already stated this general principle as applying to all services provided in a hospital insurance scheme. The cost factors in a radiological examination are:

- (1) The cost of supplying and servicing the space necessary for a department of radiology or similar establishment and for the very specialized and expensive equipment used in it. This can be calculated on a yearly basis, as a rental figure for the space provided and a depreciation figure for the equipment, including technical obsolescence as well as long use.

- (2) The salaries of all non-medical personnel necessary for the efficient operation of the department.

- (3) The cost of expendable supplies and materials.

- (4) The physician's fees for his interpretation and consultation, where necessary, on each case examined in the department or establishment rendering the service.

I cannot stress too strongly that the high quality of diagnosis provided by a department of radiology, a radiologist's private office or other establishment depends on this fee-for-service principle. It is based on the fact that a radiologist is a physician who has trained for five years over and above his regular medical course in a specialty which must be cognizant of the whole field of medicine to be of maximum value. His service of interpretation of a patient's films, including examination of the patient wherever possible and consultation with the referring physician, is a consultation just as much as a consultation provided by an internist, surgeon or any other specialist of comparable training and recognition. His opinion often proves to be the deciding factor in ultimate treatment whether surgical, medical or even obstetrical. Nothing must interfere with this opinion being of the highest quality or the whole standard of medicine will deteriorate. He is entitled to some economic arrangement which will provide him with the equivalent of an individual fee for each opinion rendered, just as much as any other physician or surgeon. The scale of these fees must be computed in such a way that their total during a year, assuming a reasonable volume of total work done, will be comparable to the incomes of other physicians of similar training and experience. Otherwise, in the choice of fields of medicine, which all young graduates have, radiology will attract only the mediocre and those satisfied to render the mere service of film-reading rather than a medical consultation.

With this all-important preamble, let us examine the methods of remuneration of radiologists which are in general use now or which might come into effect in the future.

#### (1) A straight salary arrangement

The only advantage of this method of payment is that it provides a fixed amount per year for the fourth factor of cost of the radiological examination and hence is more adaptable to budgeting under an insurance scheme. The Section of Radiology and the Ontario Medical Association feel most strongly that this is not sufficient reason to allow radiologists to forfeit the fee-for-service principle and are categori-



cally against it. The disadvantages are many and work to the detriment of the patient. A few are mentioned. (a) exploitation of the rendered medical service by a third party such as a hospital so that some part of the fee for that service accrues to the third party as profit. (b) lack of incentive to the individual to render more service when required without added remuneration, surely a general human trait. (c) lack of uniformity of salary arrangements in Ontario at present. Even where this exists as in British Columbia, it has not solved the problem of attracting enough radiologists to hospital work rather than private practice. (d) difficulty of obtaining capable and well trained assistants when work-loads increase in a department.

## **(2) Various types of percentage arrangement**

The radiologist is paid a fixed percentage of either the gross or net income of his department with or without the addition of a salary. If a salary is paid under such an arrangement it is usually small and may well be regarded as remuneration for administration and general direction of the department. A certified radiologist is almost always an able administrator. His supervision of the non-medical personnel working under him is essential to the smooth functioning of a large establishment. If this work were done by a layman or a physician not trained in radiology, the work produced in the department would be of inferior quality.

The percentage type of arrangement is the basis for the majority of contractual agreements between hospitals and radiologists in Ontario today. Legislation recently passed in the state of Iowa recognizes it as an ethical method of arriving at a composite fee for service rendered by the radiologist. It could be easily applied to any contract between a hospital or other third party and a physician rendering radiological diagnostic services. The percentage must be adjusted in any individual case so that neither party exploits the other. This could readily be assured by arbitration of contractual agreements in dispute by a joint committee of the Ontario Hospital Association and the Ontario Medical Association. Another assurance that would be necessary in any such arrangement is that the percentage accruing to the radiologist must be based on the present Ontario Medical Association tariff for each individual examination performed in the department. A final control which should be borne in mind to ensure high quality work is the Canadian Association of Radiologists' recommendation that the case-load per radiologist per year should not exceed 7,000 to 10,000 cases depending on the type of case handled in the department.

## **(3) The lease or rental type of arrangement**

Here, the radiologist receives the entire fee for the examination, hires and pays his employees, purchases all materials and reimburses the hospital or other third party for all costs incurred by them in providing space and equipment. This arrangement has been presented by the Ontario Medical Association in its brief to the Legislative Committee on Health of the Ontario Government referring to diagnostic services. It is considered the ideal method of retaining the individual medical character of a radiological examination and is a certain method of preventing profit by a third party on the consultation inherent in such an examination. It is noteworthy that there are only two or three such agreements between hospitals and radiologists in Ontario. Its main advantage is that it sets the radiologist in the same category as most other physicians practising in Ontario in that the entire cost of a consultation is included in the fee rendered. It is frowned on by those in hospital circles as approaching a monopoly.

## **(4) The fractional professional fee**

This system has not been attempted in Ontario but is being favoured in New England by both radiologist and hospital associations as a satisfactory compromise. The fee or charge for each examination is divided into a professional fraction to be paid to the radiologist and a non-professional fraction to be paid to the hospital to cover the first three factors detailed above in the cost of radiological examination.



This can be regarded merely as a percentage arrangement applied to each individual examination. It would be of most value if the radiologist were paid by a prepaid medical plan such as Physicians' Services Incorporated. This is recommended by the Ontario Medical Association as the most logical approach to the whole problem of prepaid medical care and would allow for a gradual later inclusion of other medical benefits.

#### (5) Coverage of radiological costs applicable to hospital departments only

This is the inclusion of costs in an over-all daily rate for patient care. This method may be of great aid in the budgeting of an insurance plan but cannot have any application in the calculation of remuneration of radiologists or even of non-medical costs of operating the department of radiology. It would leave the hospitals in the anomalous position of trying to hold the number of radiological examinations to a constant figure unless the over-all daily rate were on a month-by-month sliding scale.

In conclusion, I would like you to feel with our section that the patient's welfare is the factor we must consider first in all our discussion. Any restrictions or controls or any scheme of payment which lessens the patient's chance of obtaining the highest quality opinion from a radiological examination must be shunned. This can be best achieved by mutual study of every aspect of the problem by the representatives of government, of the hospitals and of the medical profession, including representatives of our section. Only then can the best course be followed on many of the problems related to the launching of a universal insurance coverage for radiological diagnostic services.

### C. THE HOSPITAL VIEWPOINT

G. HARVEY AGNEW,<sup>1</sup> M.D., LL.D., F.A.C.P., F.A.C.H.A.

The general subject of the relationship of radiologists and pathologists to hospitals is a complicated one which cannot be resolved quite as simply as some would seem to think. There are many factors involved and all have a bearing on the solution. These include the historical development of these departments and their traditional relationships, professional principles and ethics, financial considerations, the welfare of the public, and potentialities for the future in the light of current and anticipated changes in the provision of medical and hospital care.

A satisfactory solution has been delayed by the unfortunate fervour with which certain viewpoints have been urged and the prevalence of heat rather than light in some of the discussions. All too often the interests of the patient would seem to have been overlooked.

In this symposium the present speaker has been asked to present the viewpoint of the hospitals. In doing so he must assume sole responsibility for his interpretation of their position.

#### *Points of Contention*

My colleagues will have stressed the contention that it is unethical for a physician to be employed by a hospital on a salary or even on a percentage

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basis. Reference will probably have been made to certain court decisions and statements of the Attorney-General in the United States that it is illegal for a hospital to "practise medicine", by which is meant to employ a physician and charge for his services. Both radiology and pathology are to be regarded as specialities with the same academic standing as other specialties. It is contended, too, that both pathology and radiology should be paid for on a fee-for-service basis and that all revenue accruing to the hospital should be applied to these services only. Fees should be paid for as medical and not as hospital services.

In recent years both departments have become highly remunerative—partly due to the greatly increased volume of work and also due to considerable third-party payment and sustained and frequently increased charges. There has been a strong demand, particularly by certain spokesmen for the radiologists, that a "lease" arrangement be effected whereby the space would be leased from the hospital, the radiologist would meet all expenses of operation and take the earnings. Further reference to these points of contention will be made shortly.

#### *Points of Agreement*

There are many points, fortunately, on which there would seem to be general agreement. My two colleagues and personal friends on this symposium and I have discussed the respective viewpoints of our respective groups and agree that this is the case.

The hospitals believe that the radiologist and the pathologist should be accorded the recognition which a qualified expert in a medical specialty should have and should rate on the staff as any other member.

As highly qualified specialists, the pathologist and the radiologist should have an income commensurate with that background of qualification.

The hospitals fully agree that standards must be kept high.

Hospitals generally would be quite willing to include the name of the pathologist and the radiologist on the account rendered.

The hospitals believe, and I understand that my colleagues today share this view, that the ownership and maintenance of the laboratory and X-ray facilities and the operation of these services are proper functions of a hospital. This viewpoint was subscribed to by both the medical and the hospital groups in the preparation of the new Iowa legislation. The new Act states:

Sec. 3. The ownership and maintenance of the laboratory and X-ray facilities and the operation of same under this Act are proper functions of a hospital.

#### *Hospitals Reject Lease Basis*

There are certain proposals and statements with which the hospitals cannot agree. One of these is the "lease" basis of operation. These two departments are too fundamental to the welfare of the patients for a non-profit hospital to turn either of them over to private interests controlled in most instances by one individual. To do so would be to create a private monopoly of a vital clinical service which would then be operated for profit. Experience of some hospitals where this was done was very unsatisfactory, both as to quality and continuity of coverage and replacement of obsolete equipment.

One is pleased to note that spokesmen for these two groups are not stressing this basis as they did a while ago.

### *Use of Hospital Income*

The hospitals do not subscribe to the viewpoint that any net revenue coming to the hospital from one of these departments should be spent necessarily on these departments. Hospitals do keep them up-to-date and lavish a lot of money on them—I see this everywhere—but it would be absurd to waste money on any department. Hospitals are not shoe factories; they cannot discontinue a line that does not pay. They operate clinics and public wards at a financial loss in the interests of the public. Being non-profit, no dividends go to individuals, so what net revenue is not needed for radiology or pathology, as the case may be, goes to finance public wards and/or clinics.

If this be wrong, then the logical alternative would be to lower the unit charges. Do the societies want that?

### *No "Fee-splitting"*

Hospitals strongly resent, also, the accusation that any salary or percentage basis constitutes "fee-splitting". When a hospital retains a portion of the net revenue, it is only receiving a fair return for the use of the expensive equipment bought by the hospital, the technical services paid for by the hospital and the provision and maintenance of space also paid for by the hospital. In small hospitals the amount left for the hospital is often far short of the actual cost. The percentage paid to the radiologist or the pathologist is for interpretations made, for any portion of the work of the department which he himself would do and for his general supervision of, and responsibility for, the work of the department.

It is silly assertions like this which are doing much to delay a satisfactory solution of these issues.

### *Emphasis on "Ethics"*

Hospital people and many physicians are puzzled over this continual stressing of ethics. It is not "unethical" for doctors to work on salary for insurance companies or industry. Although it is "unethical" for them to work for a hospital with a profitable department, it is quite all right to be on salary if the departmental income is low and the department runs at a loss. Nor is it considered unethical for a radiologist in charge of a large department to open an office in a medical building, divert most of the outside work there and give only part time to his hospital work. We hear much about preserving the free choice of physician, so one could logically say, why not pay a radiologist or a pathologist for supervision, but let a doctor of the patient's choice interpret the findings?

It is hard to believe, despite considerable evidence, that the concern can be for a greater income, for the present net earnings of these specialties are quite high indeed. While Canadian figures are not available, the American figures for twenty-six selected specialties published in "Medical Economics" last October placed radiology in first place and pathology in fifth. The seven highest net earnings were for radiology, neurosurgery, orthopaedic surgery, plastic surgery, pathology, urology and gynaecology.

### *Basis of "No Exploitation"*

In 1939, a joint committee of the three radiological societies and the American Hospital Association (with the speaker as one of the two A.H.A. representatives) drew up an agreement the essence of which was a statement (Section 5) that could be applied equally well today:

5. Inasmuch as no one basis of financial arrangement between a hospital and its radiologist would seem to be applicable or suitable in all instances, that basis should be followed which would best meet the local situation. This may be on the basis of salary, commission or privilege rental, but in no instance should either the hospital or the radiologist exploit the other or the patient.

### *The Iowa Act*

Unfortunately, this agreement and comparable ones with the pathologists and the anaesthesiologists, gave place to other viewpoints. We had the Hess Report, followed by the much quoted "Principles for the Conduct of Physicians in Relationship with Institutions" which includes statements respecting ethics which are not in accordance with the American Medical Association's "Principles of Ethics". Various legal decisions have been made, notably the Iowa one. Following this last decision, which left the forgotten public nowhere, the medical and hospital associations worked out a compromise which has become a new Act. This Act places the laboratory and X-ray facilities under the hospital. Technicians and other non-medical personnel will be employees of the hospital, unless otherwise agreed, but the services of the departments are to be considered as medical services.

There may be "any provision for compensation" of the doctor in charge "upon which they mutually agree provided, however, that no contract shall be entered into which in any way creates the relationship of employer and employee between the hospital and the doctor, and a percentage arrangement is not and shall not be construed to be unprofessional conduct on the part of the doctor or in violation of the statutes of this state upon the part of the hospital".

It is too soon to venture an opinion as to whether or not this Act will provide a satisfactory solution; at least it clarifies some contentious points.

### *Bill 320—Canadian Federal Enactment*

In the past few weeks the wording of the federal measure authorizing federal contribution to provincial programs for health insurance and laboratory and other services in aid of diagnosis will have clarified official attitude in Canada respecting basic relationships.

The Hospital Insurance and Diagnostic Services Act, passed April 10, 1957, provides under "inpatient services", *inter alia*,

#### 2. (f)

- (iii) laboratory, radiological and other diagnostic procedures together with the necessary interpretations for the purpose of maintaining health, preventing disease and assisting in the diagnosis and treatment of any injury, illness or disability.

Under (i), "outpatient services" the same item is included.

The "provincial law" required to warrant federal payment is "a law of the province that (a) makes provision for the furnishing by hospitals of insured

services . . .". It would appear, therefore, that in the participating provinces radiology and pathology are now officially "hospital services".

### *Separation of Services*

There is one solution which may be forced on hospitals but which would be a regrettable one. This might be necessary because the hospitals, operating as they do solely in the public interest, have no intention of omitting these vital departments from the services they are expected to provide to their patients. They believe that there must always be a close relationship between the hospital and these essential diagnostic services.

Should unfortunate legal decisions be sought and obtained which would make it necessary for hospitals to refrain from maintaining diagnostic services as now organized, I am quite certain that, in fairness to their patients and to the doctors on their staff, they would continue these departments on another, though less satisfactory, basis. That would be by separating the technical and the professional aspects of the work. They would provide the space, purchase and maintain the equipment and employ the non-medical staff—just as they do now for the operating room or the delivery room. That could not be construed as "practising medicine". They would appoint a consulting radiologist and pathologist; in fact they could appoint several—just as they appoint several surgeons to the staff. The attending physician could then, if he so desired, ask for a consultation on the technician's findings or the films, or he could make his own interpretation. The internist would probably interpret the laboratory findings himself and the orthopaedic surgeon, urologist and chest physician interpret the films. The consulting radiologists or pathologists would send their accounts directly to the patient just as would any other consultant. This would not be satisfactory to the radiologist nor to the pathologist, and probably not to most of the medical staff, but that would be the concern of those who have stirred up this unrest and agitation.

Actually, this basis of operation was tried out in radiology some years ago in a large American city. It resulted in so much reduced revenue to the radiologists that the Blue Cross in that area was asked to return to the conventional basis of payment.

In conclusion, the hospitals believe that the various differences, largely magnified, can be settled amicably. They believe that the ultimate basis of remuneration will be the one most frequently followed now—that of percentage agreement. In pathology one can anticipate an increasing proportion on the percentage basis. The percentage should be a variable one, depending on various circumstances. We believe that one based on net, rather than gross, revenue can be just as remunerative but more conducive to economical operation.

It is realized that there may be problems resulting from charge limitations which, conceivably, could be set up under any program of hospital insurance. This would be of as much concern to the hospitals as to the specialty groups and I am quite certain that the hospitals will be very desirous of working closely with their pathologists and radiologists in effecting a mutually satisfactory solution.

## Is Mental Disorder the Next Frontier For Public Health?<sup>1</sup>

D. G. McKERRACHER, M.D.<sup>2</sup>

I HAVE found public health people to be quite resourceful. Their barriers against all invading organisms are stout. However, your very kind invitation to me opened a hole in your protective immunity. I intend to exploit this breach and to infiltrate you with psychiatric ideas. I hope I can do this successfully before you mobilize your defenses and so crush this invasion with the antigens and antibodies which you form against psychiatry.

I am sure that your secretary had hoped that from my bag of psychiatric tricks I would draw a technique or two which you might use on a frightened parent, an indifferent teacher, or a downright stubborn restaurant owner. Certainly psychiatrists have tried to before. Ethel Ginsburg's delightful book "Public Health is People" reports a 1948 Los Angeles workshop where 8 psychiatrists spent 14 days telling 30 public health officers just what makes people tick. They demonstrated in well baby, tuberculosis, and other clinics. Now I suppose you think that psychiatrists are addicted to that sort of thing; that they love to tell everyone how his job should be done. You have heard that they talk not only to public health staff but also to teachers, preachers, politicians, statesmen, parents, and, on occasion, even to Santa Claus. Maybe some psychiatrists do this but experience has taught me better. I no longer tell people how to do their own work. I even had to burn my lectures on child training after I had acquired two growing children of my own. No, I will not use your time to tell you how to do your job—rather it will be to seek your interest and your assistance. To those who have done so much in other fields of public health, I pose mental disorder as a problem worthy of your attention.

Columbia's encyclopedia says this of public health, "Public health deals with the promotion of health . . . with communities . . . is interested in health education . . . works with families as units . . . personnel include physicians, nurses, sanitary inspectors, health educators, lab technicians, statisticians and others . . . often concentrates on a particular disease . . . is interested in a *more equitable distribution of medical care*." What "particular" group of diseases in the field of medicine needs more concentrated skilled attention than the mental illnesses? The mentally ill tragically lack "an equitable share of medical care", bluntly, they are having a raw deal.

Public health has tackled mankind's greatest scourges. The plague, typhoid fever, and diphtheria have been brought under control. Tuberculosis and poliomyelitis may soon have to retire to the wings—vanquished. So mental disorder with its absolute and relative increase in morbidity, now stands in

<sup>1</sup>Presented at the third annual meeting of the Saskatchewan Branch, Canadian Public Health Association, held in Saskatoon, April 23 and 24, 1957.

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bold relief as the greatest health problem covering all age levels. I want help from public health workers fresh from the successes of the past half-century. With such aid this grave mysterious problem of mental disorder can be reduced to a workable size—without it we may lose the battle. There are 70,000 men, women and children who fill to overflowing Canada's seventy-five mental institutions. Add to them several hundreds of thousands with emotional and mental incapacities who do not find their way to mental hospitals. The public shows little sympathy or understanding for either group. Since those in hospital are more ill let us look more closely at them—theirs is the greater tragedy.

What happens to the mentally sick person who cannot be cared for at home? He is barred from admission to his community's hospital. All general hospitals practise segregation against the mentally ill. Partial exceptions occur where psychiatric units exist. However, usually, the mentally sick persons are only admitted to general hospitals when wrongly given a diagnosis which suggests physical disease.

Why do general hospitals make these rules? They say that the mentally ill are too noisy, too disturbing and too dangerous both to themselves, and others for care in a general hospital setting. This idea is a relic of the Middle Ages, of sorcery and witch-burning. I say categorically that this explanation can only be made in ignorance.

What will you find if you visit a psychiatric ward in a general hospital? It is as quiet and orderly as any other part of that hospital and its patients on the average are more docile. I work in a psychiatric ward in a general hospital. We never refuse admission to a patient because of the degree of disturbance. We never transfer a patient to a Provincial Hospital because he is too disturbed. Day or night no patient is ever locked behind any door. All doors from the front entrance to the most remote area of the ward are open. Very sick patients get special nursing care just as they do on a surgical or medical ward.

But only 90 mental patients in the province of Saskatchewan get care of the same standard as other sick persons. The three hospitals with this provision are in Moose Jaw, Regina, and Saskatoon. Nearly 4,000 mentally sick persons are in two large provincial hospitals where lack of staff, poor buildings and a lack of general facilities make it impossible to give the same standard of care that the favoured 90 receive.

In the rest of Canada the mentally ill fare no better, usually worse. In Canada, the United States and the United Kingdom the mentally sick having been denied general hospital care, are admitted to large concentration areas in fortress-like buildings, usually far from their own homes and modern medical centers.

Does this worry the average Canadian? Except for the mentally-ill person himself and for his grief-stricken relatives, it does not. The average person accepts this state of affairs as normal. He shuts his eyes to the problem—tends to evade responsibility for it. Why does he do this? Partly because of his fear of so-called insanity and partly because he has not yet been able to accept mental disorder as an illness in the same sense that he accepts illness of the heart, or the lungs, or the bones. If the arteries of the heart become sclerotic,

the patient is considered sick; but if this same sclerosis affects the arteries of the brain then a different sense of values operates. The patient is no longer sick—he is now insane. Instead of compassion and consideration for human dignity he is treated with embarrassment, fear and perhaps a touch of ill-mannered humor. Then he is banished to a distant, overcrowded and understaffed hospital. To show how silly this is, Dr. Humphry Osmond has compared the care one would receive for illness of the brain with that for the big toe. He has pointed out that while we really value our brains higher, we provide much better treatment facilities for disorders of the big toe.

The public knows that all is not well in its provisions for psychiatric care. When a relative becomes mentally sick, the formerly indifferent person hotly demands that care be granted in a general hospital. His lightly camouflaged fear of mental hospitals becomes all too evident. Now is this fear justified? What would a public health team find if it surveyed an average provincial mental hospital? It would certainly find obsolete and generally unsuitable buildings. These monolithic structures are not suitable for psychiatric care or for restful living. It is not unusual to find 75 people sleeping in a single room with bed clearances of less than six inches. The universal overcrowding taxes all essential services, proper maintenance is impossible. Just keeping the hospital clean is a major problem. Appetizing meal service is seldom consistently achieved. The human congestion makes for drab, fatiguing and sometimes ill-smelling surroundings.

Does the staff meet modern hospital standards? In quality it generally does—in quantity it falls far short. Frequently mental hospitals operate with ward staff complements 25 per cent of that seen in general hospitals. Patients who come for therapy sometimes find themselves in unpaid positions of responsibility.

Public health always tries to recruit the assistance of the family. Under the present system of psychiatric care, how much can family interest be mobilized? What psychiatric resources are now available to this family? They are chiefly those of the family doctor who would be the first to admit his limitations in the field of psychiatry. What help can a family get in dealing with an aged relative who is becoming confused and delusional? With distances to the Provincial Hospital often more than 200 miles, the psychiatrist can not maintain close contact with the relatives of his patient. It is very difficult to effect rehabilitation or follow-up supervision when the patient arrives at the mental hospital from "parts unknown" and after his illness has subsided, departs into "outer darkness", as far as the hospital follow-up is concerned. Is it any wonder that the gulf between the mental hospital and the community is so broad and deep?

So far we have spoken of mental disorder as if all the problems were the same and that identical facilities had been provided for each. This is not so. There are four main categories which require some institutional care and one category which receives all its help in the community. In Saskatchewan the mentally retarded have the best facilities of any of these five groups. Indeed, provision for the care of the mentally retarded in this province is equal to any in Canada. The Training School at Moose Jaw will eventually accommodate

the 1,500 mentally retarded who require institutional treatment and education. Its superintendent, Dr. Alastair Beddie, is working co-operatively with the Association for the Mentally Retarded and the local nursing school units. These units include the Harrow de Groot School in Regina, John Dolan School in Saskatoon and one or two others now being set up. All that is needed to achieve a really good program for the mentally deficient is to organize and combine the efforts of all the interested parties not only the medical or psychiatric agencies but also the ones of education, welfare and labour. This surely is a public health responsibility.

There are neither facilities nor organization for giving the same level of medical care to the mentally ill. The bewilderment of the withdrawn young schizophrenic (from the group making up the bulk of young adult admissions) is exceeded only by the bewilderment of those in his community who might like to help him. Yet except for some small efforts of the Canadian Mental Health Association and the provincial clinics, there is no community program to help him when he becomes ill or to rehabilitate him when he gets better.

Among the middle aged, depression is the commonest symptom of mental illness. It is also one that responds very satisfactorily to treatment. However, the lack of acceptable treatment facilities often leads to tragic delay. But the most challenging problem is the increasing number of mentally ill old people which results from the triumphs of the antibiotic era. Conflict now rages between those who, recognizing confusion, disorientation, and emotional disturbances as illness would send these sick old people for mental hospital care, and those, who insist these people are not really sick but should be cared for at home or in a nursing home. Meanwhile the sick, confused old man, like Charon, the ferryman of the Styx, sails endlessly between mental hospital and home, doomed never to find haven on either bank.

Finally, there are the neurotic adults and children who do not go to the mental hospital. These are the victims of unresolved anxieties who flock to doctors' offices with myriads of hypochondriacal complaints. Can their lot, and that of their harassed medical attendants, not be lightened? Surely preventive measures could be taken which would reduce this unhappiness and incapacity. These questions are germane to our inquiry but must await further developments before answers can be attempted.

In brief, we have hardly begun to apply scientific public health measures to the vast number of mentally ill people who consequently suffer extremely and are much incapacitated. These illnesses are still shrouded in mediaeval ignorance and superstition. Surely mentally ill people have the right to the same care for their sick brains that we willingly and expensively give to a sick skin or a sick stomach. The full force of public health services is needed to enlighten the public and encourage correct action.

What is the best way to get public support for a new deal for the mentally ill? In 1951, the World Health Organization asked this question of its Mental Health Expert Committee. The committee suggested that treatment should be provided as close as possible to the patient's home and that small community hospitals, linked to existing public health programs should replace the monolithic monsters.

Starting from this premise, a group of interested professional people of the Saskatchewan Department of Public Health, drew up a tentative plan to apply these principles to mental health care in this province. This scheme has since been scrutinized by most psychiatrists in Canada and many of the leading mental hospital administrators in the United States. It has been given most sympathetic study by the Provincial Government but it has not yet been approved by them. Originally known as the Saskatchewan Plan, it has been officially adopted (with modifications) by the national organization of the Canadian Mental Health Association, which now has a standing committee under Dr. James Tyhurst of McGill to study the community mental hospital as part of community psychiatric facilities.

The principle as applied to Saskatchewan provides for the organization of psychiatric services on a regional basis. Within each region there would be the equivalent of a 250-300 bed psychiatric hospital which would care for all of the mentally sick (but not the mentally retarded) whose homes were in that region. This unit would be of general hospital standard and attached as closely as possible to the local general hospital. Its administration would be primarily provincial but be tied in with the public health program of the region. There would be a full time mental health clinic acting in close co-operation with public health officials and general practitioners. The Canadian Mental Health Association modification of the plan, recommends that the staff have some psychiatrists to supervise diagnosis and treatment. General practitioners would be encouraged to admit and treat their own patients. This last measure should not only keep down staff cost but help the public accept mental illness as a health problem. Such a regional unit would have to be carefully planned. The planning board might include not only representatives from public health and psychiatric services but also members of local, municipal administrations, practising physicians and other citizens interested in mental health. Where might such regional facilities be located in Saskatchewan? I think, at a minimum, they should be based at Swift Current, Yorkton, Regina, Saskatoon and Prince Albert; depending on future developments, additional units might be considered at Wadena, Melfort and Moosomin. The seriously overcrowded hospitals at Weyburn and North Battleford could be reduced to 1,000 patients, each of these two hospitals serving four adjoining health regions.

What might be expected from such a program? That sickness of the brain could then be viewed without fear and shame as is any other illness; that the mentally ill would go to hospital with expectation of returning to the community after receiving treatment rather than remaining incarcerated for life.

We hope that you, the public health workers will take part in this venture in three ways. First, visit the mental hospitals to see for yourself. Apply to them your measuring tools of medical adequacy. Compare what you find as to standards of space, privacy, staff provision, and public support, with those which exist in general hospitals. If this comparison convinces you that the mentally ill are adequately provided for, then I have no further request to make. But if you are disturbed by what you see, and feel that a different approach is necessary, I have a second suggestion. It is that you familiarize

yourself with the problem of psychiatric morbidity, with the reasons for the present therapeutic inadequacy, with plans for the development of regional services. That having so informed yourself you work for better conditions with your opposite numbers in other provinces through the medium of your national organization. Remember! Inadequate care of the mentally ill is not exclusively a Saskatchewan problem. Luckily the Government of this province has shown itself to be sympathetic and better informed than most.

The people of Canada must be shown what they are doing to this large group of sick people who cannot speak for themselves. This is a type of health education where no exhortation is necessary—facts speak for themselves. The facts must be made known if the situation is to be improved. For we live in a democracy and, in a democracy, no government, no matter how enlightened, can move ahead of its people. At the present time our government provides \$4.00 a day for the total care of a patient with a sick brain. Remember that this is as generous as any provision in the country. Yet the total cost, not including the doctor's bill, for caring for a Canadian with a sore foot is now more than \$14.00 a day. If this difference in care is to be made up, the public must be prepared to upgrade the treatment of the sick brain. Then, and only then, can any government provide the type of facilities which would make the difference.

Now for my third suggestion. It is that once the principle is accepted and the program launched that you share with the psychiatrists, psychologists, social workers, and psychiatric nurses in providing the community service to meet the problem of mental illness. You have the experience and the know-how in epidemiology, in community organization, in the development of programs of after-care and prevention. You know how to bring together a variety of community efforts for the common cause. You have a direct pipeline to the family unit. This is where our further activities toward treatment and prevention must be focused. Will you, who have done so well in the preventive field, not share with us the magic of your success?

Perhaps now you can see why I did not spend my time telling you how to do your job. My own is not well done. I have spent 26 years working with those whose illness is in the brain. Their problems are grievous, their symptoms disturbing, their illnesses complex. All of us who make the preservation of human health our goal have sadly neglected this group and at great cost to everyone. But now we can see the problem more clearly. There is a road leading towards the solution. Will you join us on that road?

## Co-ordination Between Child Health Services and Voluntary Agencies<sup>1</sup>

DONALD PATERSON, M.D., F.R.C.P. (Canada and London)<sup>2</sup>

I WOULD like first to clarify the terms "child health services" and "voluntary agencies". Under child health services we must include hospitals, clinics, and institutions such as the Health Center for Children with its 156 in-patient beds and its general and specialist outpatient clinics. This is staffed by the Department of Paediatrics of the University of British Columbia. The Health Center for Children has also a travelling speech therapist and audiologist available throughout the province. Then there is the Children's Hospital, with its 83 beds and its outpatient department. Its travelling clinic plays a great part in supplying specialist services to the interior. For long stay cases, we have the Vancouver Preventorium with 40 beds and the Vancouver Island Solarium with 50 beds. We have the rapidly expanding G. F. Strong Rehabilitation Center which is available for the treatment of a variety of handicapping disabilities. In the Center function both the Greater Vancouver Cerebral Palsy Clinic and the clinic of the Canadian Arthritis and Rheumatism Society. We must include also the Canadian National Institute for the Blind, the Jericho Hill (Provincial) School for the Deaf and the Blind, the Woodlands (Provincial) School for the mentally retarded and the Child Guidance Clinic, etc.

Under voluntary agencies we must mention the service clubs which raise money to set up additional clinics and supply ancillary services such as the cost of travelling from the interior, the cost of accommodation or the actual accommodation itself for the mother and child, and the cost of treatment. This group includes the Polio Foundation of B.C., the B.C. Society for Crippled Children, Junior Red Cross, Kinsman Club, Lions Clubs, Knights of Pythias, the Shriners, and the Community Chest and Council of Greater Vancouver. This latter may be looked upon as a fund raising organization on a vast scale—but it is more than that. It must be looked upon as a planning organization where projects are conceived, talked over by all concerned and finally launched, often in pilot form before being sponsored by government or the Community Chest itself.

Now, the danger with all these estimable and well meaning agencies and organizations is that there may be much overlapping of services—in fact, actual competition for patients and funds. Often money is spent on projects which are not of major importance to the community while really worthwhile projects can get no financial support. A good case in point is seen in regard to mentally retarded children who received little or no support until last year

<sup>1</sup>Paper presented to the Institute for Provincial Public Health Workers of British Columbia, April, 1957.

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when funds were forthcoming from the provincial government through the local school boards—the results, as I will mention later, were most satisfactory.

How can one possibly get all these people to sit down at one table and talk over their various hopes and aspirations and co-operate fully. This will be a slow evolution and will take much education. The most difficult group to integrate are the voluntary fund-raising groups. They feel they must, in order to raise money, be free, and give their money to popular causes which appeal to the public or their fund-raising ability ceases forthwith. The danger is that such fund-raising groups get carried away and spend money where it may not be as necessary as they imagine, leaving more worthwhile projects unsupported.

One asks oneself whether the situation should be left as formerly when each branch of the child health service appeared, hat in hand, and put its case as eloquently as possible to one service club after another, or to some government department, or to the public direct. Often, projects with little or no public appeal failed to obtain assistance.

The Registry for Handicapped Children hoped that a much more realistic approach to this whole question might be gradually evolved; that fund raising and project planning groups and hospitals and clinics and other interested parties might sit about one table and discuss, amicably and with perfect freedom, the plans of each group so that there would be no overlapping and, therefore, no waste of public money. It ought to be possible to decide which projects are the most urgent and which need the most financial support.

The name of such a group might well be the Child Health Planning Council, and the objects would be to keep one another informed of plans for the current year or two. Another object would be to try to apportion various worthwhile projects to each fund-raising agency to aid in money raising. This council would need an executive group and an advisory medical board. It would also need advisers skilled in social service such as the Community Chest and Council might supply and also advisers from various government agencies who might be affected by the decisions of the planning council or be able to offer first class advice on the council's problems. Probably the most important point would be the educating of the fund-raising groups as to how their money could be spent. This could best be done by having them attend study groups along with the child health services. In this way, they would see for themselves what projects were important and what were not. The formation of this council on child health planning is still a long way off, but the Registry has made a start in a small way and, in time, we may achieve our objects.

Many of you are aware of the change in the Registry's title from the Registry for Crippled Children to the Registry for Handicapped Children. I still feel that this title is not quite correct. It might well be known as the Registry for Handicapped Children and Young Adults since we continue to register persons up to the age of twenty-one years. As we approach the registration of the ten thousandth child it is the young adult who is now becoming our problem. I will say more about this later.

The danger in setting up a Registry is that it becomes a "set of statistics" or

a "counter of heads" only. To prevent this, we have made great efforts to keep in touch with all agencies who interest themselves in the health and welfare of children. This has done us much good. We hope it has done the agencies some good to have us interested in their work, as it entails a very great deal of hard work and is time consuming. It is only in this way that the Registry can be kept a vital living organization and not just a vital statistic. This means that the Registry must participate in all of these agencies' programs to the best of its ability and not just be an observer. Any program contemplated by these agencies should be known to the Registry and the Registry should be able to bolster the program if that is needed and if it is not needed, help to prove that this is not of primary importance.

A representative of the Registry is very active in most of the divisions of the Greater Vancouver Community Chest and Council. The Registry participates in the planning and carrying out of projects at the Community Chest Health Division, Maternal and Child Welfare Division, and Guidance for the Handicapped Division. This means that some hours each week are spent at committee meetings and considering and furthering the most worthwhile projects. The statistics and other information gathered at the Registry may be of considerable value in planning a project. This will be increasingly true as our statistics become more complete. The Registry has also monthly meetings with the Junior Red Cross, the B.C. Society for Crippled Children, the Health Center for Children, the Association for Retarded Children of B.C., and the B.C. Cerebral Palsy Association. We also participate in the Medical Advisory Committee to these last two associations. The Registry is, of course, very interested in, and works closely with, the Western Rehabilitation Center which is now known as the G. F. Strong Rehabilitation Center.

Meetings are often held with such groups as the Polio Foundation, who are widening their work to other fields; the Canadian Arthritis and Rheumatism Society; the Jericho Hill School (the Provincial School for the Deaf and Blind); the Canadian National Institute for the Blind; the Children's Aid Society; the Youth Counselling Service; the Children's Hospital and the Vancouver School Board. We have a very close liaison with the Metropolitan Health Officers' meeting which is held monthly and we have found that these doctors are interested in our work and what we are planning.

Due to our liaison with these agencies, together with the information gathered daily, we feel that we are in a better position to guide and council agencies and individuals on questions to do with the health and welfare of children. We are also able to keep ourselves informed on what services are available and how best to obtain them for the handicapped child. I would suggest to all of you, wherever your public health work may be, that participation in all local health activities will pay you high dividends, both on a community, personal and professional basis, and I do not see how one could do a good public health job unless one does so.

You may not be able to appear officially as leader of some local health scheme but unofficially your backing and interest will often make all the difference between success and failure. I realize I may be treading on dangerous ground but I would suggest that times change and it is my belief

that the public health department in each small community must take a leading part in all local health activities if it is to be of the greatest service to that community.

### *Functions of the Registry*

The Registry was set up primarily to ascertain the extent of the medical problems of handicapped children in our province and to interest itself in seeing that facilities were available for medical help in such cases (1). I would draw your attention to a series of articles (2, 3) in the Bulletin of the Vancouver Medical Association in which the Registry is bringing the medical profession up-to-date on what can be done for each type of handicapped child. The first article describes services for mentally retarded children and it appeared recently. This is to be followed by other articles on services for children suffering from cerebral palsy, deaf and hard of hearing children, children with speech defects, children with eye defects or blindness, cardiac cases, special deformities and orthopedic problems, epilepsy and emotional disturbances, and so on. It is sufficient to say that although these facilities and services are not perfect by any means and in some directions, in fact, are sadly lacking, nevertheless we can be justly proud of them as they rank with the best in Canada or anywhere. The Registry is particularly proud of the B.C. Society for Retarded Children to which it gave some assistance at the Society's inception. As I previously mentioned, there are now twenty-five schools functioning throughout the province and we feel that something is being done for those mentally retarded children who make up the largest single group in our Registry. Many more schools will be needed as there are still vast areas where no school exists for these children. We were pleased to note what an active part was played by the local medical officer of health in setting up such schools and this should be looked upon as a challenge to those medical officers who have, up to the moment, failed to achieve this objective.

The Registry was able to assist the B.C. Society for Crippled Children in establishing the need for a short stay home for mothers and children attending clinic in Vancouver. Easter Seal House now functions to capacity. The same may be said about the Bunny Bus service, which covers an ever-widening area.

I would like to point out that the Registry cannot solve your local problems, all it can do is help you to solve them. It does not attempt to remove the responsibility of the handicapped child from your shoulders. We will continue to urge the filling of gaps in the medical services which are running reasonably well. We turn then to the wider field and try to answer the question of what more should we do for this child.

The definition of a handicapped child, used by the Registry, is a child who is handicapped by a disability severe enough to occasion difficulty in completing education and becoming self supporting. Now that the medical aspects of the help to be given have been organized and are being improved continually, we must consider the other aspects of help which these handicapped children require. We feel that more emphasis should be placed on the importance of education and the planning and early training for suitable employ-

ment of these children. Planning for education and employment must be started at an early age and such planning must commence in the local area with the child's own family co-operating.

### *Importance of Education*

More of our handicapped children are reaching the school-leaving age and we are finding that they have not been prepared for their next step in life. We ask ourselves—has this child had all the education he can benefit from? We know that the better his education and the more intelligent he is, the easier it is for him to become employable. It has been proved that with a university education, a disabled person can almost always be employed. With grade 10 or better more than 90 per cent of the handicapped can support themselves, but with grade 3 or 4 only, the handicapped person may be limited to simple repetitive jobs. A good education is very important and all this should be explained to the parent. Some parents are easily discouraged and there is a tendency with handicapped children to make excuses and do little about this aspect of their treatment. Actually, handicapped children require a better education than normal children if they are to have a chance. Then the question of vocational training arises. It must very soon be clear to the child's teacher that academic education is being wasted on such a child and that efforts to train him for a job should be instituted instead. All this requires planning for each individual child. When you ask the average small boy what he is going to be when he grows up, he is likely to answer—an engine driver or an aeroplane pilot. This type of immature thinking often continues in the handicapped up to school-leaving age and the family does not seem to come to grips with the realities of the situation. We hear of severely crippled children who want to be motor mechanics, deaf and dumb children who want to be doctors, and girls with grossly impaired eyesight who want to be nurses. That sort of loose thinking on the part of the children and parents might have been prevented had they been given better advice early enough.

In Vancouver, the School Board does endeavour, through its school counselors, to advise and give some vocational training for a great many of these children. They work in very close co-operation with the Special Placement Branch of the National Employment Service. The schools have endeavoured to switch children who obviously cannot benefit from academic work, at an early age, to some work which has a vocational implication and which will enable them to earn their living. As a result the problem of the handicapped child of school-leaving age in Vancouver is not as acute as it is outside this city.

### *Public Health and the Registry*

How then can the public health staff help us to solve this problem? It is the feeling of the Registry that you are the leaders in the local community field and that, because this child is handicapped and has some medical disability, you are in a position to take the lead on his behalf and be his champion. It must, however, be a "team" approach right from the start. Your "team", with you as chairman, would consist of the local school counsellor or school principal, the

family physician, the welfare worker in the area, and the placement officer of the National Employment Service.

This team should cover all aspects of the child's problem—his health, his education, his welfare and his work. Being a most comprehensive group, your findings should carry weight with the child's parents. This is important as the co-operation of the child and parent is essential.

If after your team has considered some child's case they feel that specialist counselling or training is required, an appeal to the Registry could be made to arrange such a service for you. We feel strongly, however, that your team will be able to find that you have, in the local community, often at your very door, opportunities for helping the majority of these children and will not need much help from outside.

Are the citizens' and local service clubs being fully utilized in your area on behalf of these handicapped children? If they need transportation to and from their school or work, that is something which these agencies should be asked to provide. Have you retired or civic-minded carpenters, leatherworkers, metal-workers, electricians, seamstresses or handicraft teachers who would undertake to interest themselves in teaching their craft to one or more handicapped children?

From time to time, some form of special vocational training may be necessary. It is hoped that as vocational schools are set up throughout the province, a special section for handicapped young adults will be evolved to take care of this problem.

The solution to our problem of the employment of the handicapped young adult cannot be obtained without hard work. To send such young people away from home to a large city for training and later employment is seldom the answer. It is a community challenge which you, as leaders in your local health units, must take up vigorously and solve.

This is a very big problem and cannot be solved by our throwing it back into your lap entirely. Early planning at a local level and a combined effort by a competent team will solve all but a few of the worst problem cases. The Registry is dependent on you, and has always been so, for the facts about our handicapped children. With the local health unit to captain the team, the handicapped child is in safe hands.

#### ACKNOWLEDGEMENTS

I am grateful to Miss A. E. Scott of the Division of Vital Statistics, a pillar of strength in the Registry, and Mr. C. E. Bradbury, Rehabilitation Co-ordinator, who have helped clarify my thoughts as expressed in this paper.

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# The Treatment of Sewage by Lagooning

J. G. SCHAEFFER,<sup>1</sup> M.A.Sc.

IN northwestern United States and in western Canada increasing use is being made of ponds or lagoons for the treatment of sanitary or domestic sewage. This method has been used by industry over a period of many years. It has been used also as a temporary relief for overloaded conventional treatment plants. However, it is only within the last five or six years that lagoons have been used deliberately for the treatment of sanitary sewage and as an acceptable alternative to conventional processes. On this continent the state of North Dakota was probably the first to endorse the principle of sewage lagooning for this purpose. At the end of 1956 there were 53 municipal installations in operation in that state.

Since its adoption by North Dakota, the use of sewage lagoons has spread to other states of the Union and to the prairie provinces. In Saskatchewan there were 17 municipal installations in operation at the end of last year. There are more than that number in Alberta and a few in Manitoba. One of the Saskatchewan installations replaces an activated sludge plant, one a standard trickling filter and two replace Imhoff tanks. The population of the municipalities concerned ranges from 600 to 3,000. Plans are being prepared for an installation at Swift Current to replace a high-rate trickling filter system and consulting engineers have recommended that Regina's sewage treatment plant be replaced by lagoons. The population of Swift Current is 10,000 and that of Regina is 90,000. Six other urban centers are presently constructing lagoons or are about to do so.

To the uninitiated the term, "sewage lagoon" usually conveys a picture of a low area filled with an evil-smelling, black semi-liquid. Perhaps the choice of the term is somewhat unfortunate, but it probably did not occur to those in the field that a rose by any other name would smell sweeter. A better and more correct designation is "oxidation pond". Although a sewage lagoon functions as an oxidation pond the process is more inclusive. It has been suggested that "stabilization pond" not only has a better sound but describes the process accurately. In spite of the name, the use of these ponds for the treatment of sanitary sewage is increasing to the point where this method is being used to the exclusion of all others, and the popular designation is still "sewage lagoon".

Unlike the treatment of water, man's efforts to convert complex unstable sewage to a simple stable form are completely dependent on nature. A conventional sewage treatment plant is simply a collection of works so designed that various micro-organisms can carry out their normal activities, unhindered and with a maximum of efficiency. We provide ideal conditions for the work of nature. The degree of our approach to the ideal must be related to the cost involved and, more particularly, to the quality of the end product required in

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any given situation. Nature, if left alone will produce the desired end and probably more thoroughly than when man interferes. However, nature takes her time and there are many situations where time is an important element and we cannot afford to wait. We attempt to speed the process, hence artificial sewage treatment facilities.

A sewage lagoon, like a conventional treatment plant, is designed to provide ideal conditions for the action of natural agencies, but with a minimum of interference by man. In fact once the works have been created man may and does forget about them. That cannot be done with a conventional system if any degree of efficiency is expected. Too often a conventional plant is neglected with the result that the facilities become useless for the purpose intended. This applies to the majority of small urban installations and possibly some of those serving larger centers. The more complex the treatment facilities the more attention required and the greater the operational problems. In the case of a sewage lagoon, once the construction is completed it is handed over to natural agencies and even man's ingenuity cannot suspend the work of nature for any length of time.

#### *Design and Construction*

A sewage lagoon is a level area with a dyke around it. It is as simple as that. The sewage is discharged to the bottom of the lagoon at a point or points near the center or at least some distance from the dykes. This is necessary for good dispersion of suspended solids. As sunlight plays an important part in lagoon operation, maximum penetration is desirable. This is considered to be about five feet which is the maximum water depth that we permit. Because of the thickness of ice cover in our climate this figure is considered a minimum as well. Three feet of free-board should be allowed, which makes the average height of a dyke about eight feet. Inside slopes should be not steeper than  $3\frac{1}{2}$  to 1. A slope of 4 to 1 is common. It does not appear to be necessary to use rip-rap. Wave action is surprisingly light. The explanation is thought to be the effective lowering of surface tension by the extensive present-day use of synthetic detergents. In any event, mixing by wave action does not seem important.

It is theoretically possible to design a lagoon so that there will be no overflow. Very large areas are required in that case. The author can see no justification for such designs. All of the installations in Saskatchewan are provided with an overflow outlet. There may be situations where periodic discharge of liquid is desired. That can be accomplished by providing an effluent holding-basin. The water depth in a holding-basin may be any suitable figure indicated by economics or topography.

The criterion for area requirements is a function of bio-chemical oxygen demand (B.O.D.). There is as yet no clear-cut value of allowable B.O.D. loadings per unit of surface area. Various values have been used for design purposes but the designers acknowledge that they deliberately keep the figures below the higher values indicated by limited experimentation. It is known that B.O.D. loadings much in excess of the usual design values can be applied successfully for short periods at least. The United States Public Health Service commenced a study of sewage lagoons in North and South Dakota

and elsewhere more than two years ago. Interim reports support the contention that sewage lagoons are as efficient as claimed by their advocates but as yet no pronouncement has been made in connection with allowable B.O.D. loadings. In Saskatchewan we use a value of 50 pounds of B.O.D. per surface acre per day. We couple with that, largely because of climatic conditions during the winter, a liquid loading or holding period of about 120 days. Whichever value is the greater is the figure used. Shock loads are not a factor in design.

### *Operation*

Sanitary sewage normally contains in abundance the essential micro-organisms for nature's role in the cycle of life and decay. When sewage is discharged to a lagoon natural agencies take over immediately and nature is given full scope to complete cycle after cycle. Furthermore, in a very short time the lagoon is seeded with other microscopic plant and animal life as well as with some of the higher animal forms. Algal growths soon appear and play an important part in the process. The soluble nitrogenous, carbonaceous and sulphurous compounds are immediately attacked by bacteria, and suspended solids are broken down and attacked by microscopic life. Nitrates and carbon dioxide are produced in a steady volume, thus providing plant food. Algae flourish and in turn provide a super-abundance of oxygen. Microscopic and higher forms of life feed on the wastes and on each other. The net result is a stable effluent with no build-up of suspended solids. The effluent is clarified except for such algae as may be carried along. If the algae in the effluent is objectionable further clarification can be obtained by discharging the lagoon to a second or even a third cell operated in series. This results in what might be called a polished effluent. In one three-cell installation the author found the clarity such that the face of a fifty-cent coin at a two-foot depth could be determined from a photograph.

During open season operation the effluent from a sewage lagoon is on a par with that from a tertiary treatment sewage plant. B.O.D. reductions are in the neighbourhood of 98%. Except for the algae, suspended solids reductions are on the order of 100%. Bacterial reductions exceed 99%. During this period the process is strictly aerobic and there are no odours. Oxygen supersaturation can be demonstrated at any time during the day. Dissolved oxygen values in excess of 25 parts per million at 70 degrees temperature are common. There are of course diurnal fluctuations and prolonged cloudy weather no doubt affects the oxygen content.

With an ice cover anaerobic conditions prevail but the cover prevents the escape of odours even if present. Efficiency drops but remains on a par somewhere between primary and secondary treatment. We have yet to discover a B.O.D. reduction under 50%. Sixty per cent reductions are common, even with an ice cover approaching four feet in thickness. Suspended solids reductions remain practically as high as under summer conditions. Unless the liquid loading is much below the design value ice never forms in a small area of eight- to ten-foot diameter directly over the inlet.

When the statement is made that there are no odours from a properly designed sewage lagoon it should be qualified by pointing out the possibility of

some odours after the ice break-up in the spring. During the turn-over from anaerobic to aerobic action there is usually some odour varying from mild to intense. The change-over period may last from as little as one week to two or three weeks, depending largely on climatic conditions. Odours are dispersed in a short distance unless carried by a strong wind, and are no worse than those emanating from some conventional sewage treatment plants throughout the year. It appears that an odourous condition does not necessarily develop each spring. The explanation is not clear, but no one should be deceived into thinking that there never is any odour from any lagoon.

#### *Location*

We have no hard and fast rule regarding location of a lagoon with respect to distance from the community or from human habitation. We recommend that the distance be 2,000 to 2,500 feet or more if economically possible but we have some installations where the distance from the nearest dwelling does not exceed about 1,000 feet.

As stated in a previous paragraph, there is no build-up of suspended solids. Reduction is so complete that only inorganic ash remains. Consequently, with an average sewage the build-up is not likely to exceed about  $\frac{1}{25}$  of an inch per year. The author saw one lagoon which had been de-watered after 25 years' use and allowed to dry. The dried sludge measured about  $\frac{1}{2}$ -inch in thickness.

#### *Cost*

The cost of constructing a sewage lagoon is much less than that of a conventional plant for the same degree of treatment, even when the cost of the land is included, unless the land value is exceedingly high. For a small community requiring about ten to twelve or fifteen acres the land cost at almost any price is of minor importance. Some communities in North Dakota have paid as much as \$600.00 per acre. The cost of land could reach a prohibitive figure for a large urban center, not only because of the amount required but also the potential value of available land for residential subdivision or industrial sites. Apart from this factor, the size of the community served by a lagoon system is not restricted. There is no relation between community size and efficiency of operation. The criterion is sewage volume and characteristics just as in conventional plant design.

The cost of operation and maintenance is practically nil. Occasionally it may be necessary to repair the fence enclosing the lagoon site, or it may be desirable to control weed growth. The actual functioning of the lagoon requires no attention or supervision.

The low cost of lagoon construction, enhanced by the elimination of operational costs, has enabled numerous municipalities to install sewerage systems, which otherwise would have been impossible for financial reasons. Those municipalities which now operate a costly conventional plant can, in many instances, substitute a sewage lagoon and save considerable money over a short period. An additional attraction toward this method of sewage treatment is the consistent excellence of the end-product. These factors no doubt account for the fact that not one conventional sewage treatment plant has been built in this province since the first municipal sewage lagoon was installed.

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## KNOW YOUR ASSOCIATION—THE JOURNAL

A JOURNAL may well be said to be the life of a professional society. This is particularly true of the Canadian Public Health Association. In the scientific field, the journals of a number of professional societies occupy a position of first importance. It has always been difficult for professional societies to provide financially for their journals. Scientific journals require either a very substantial subscription fee or subsidies from universities or government agencies.

The Canadian Journal of Public Health is now in its forty-eighth volume, having been commenced in 1910. The story of this period of nearly half a century is the record of a continuous and successful effort to maintain the publication through two world wars and a decade of financial depression. The Association can be proud that there has been no interruption in publication in this long period of years. The Journal is unique in that it has been published through the voluntary services of its members. Because of the conviction that the Journal is the most important means of improving and strengthening public health services, particularly local health services, the Journal has been continuously published and has rewarded those who have made its publication possible with the realization that it has been a worth-while effort.

Today, the Journal has the largest circulation in its history. How has the Journal reached the important place which it occupies among professional scientific journals? The need for the Journal in Canada was evident many years ago. In 1874, Dr. Edward Playter, a family physician in Toronto, felt compelled to express his conception of the practice of medicine in which the prevention of disease and the promotion of health were of first importance. He published, at his own expense, the Canadian Sanitary Journal in which he urged the establishing of a provincial board of health in each province, of a federal department of health with an advisory council and of local health departments serving both rural and urban populations. In a very real sense, he was voicing in Canada the "sanitary idea" of Edwin Chadwick in England and of Lemuel Shattuck in Boston whose recommendations presented to the legislature of the Commonwealth of Massachusetts in 1850 are today as applicable to the sound promotion of health as they were a century ago. As a physician, Dr. Playter urged his colleagues to be health advisers to the

families committed to their care. He reiterated that many diseases could be prevented and that much of ill health was avoidable. He saw clearly the basic contribution which physicians in practice could make for better health and realized, at the same time, that the community had a responsibility to protect its citizens against diseases of environment for which the individual himself could not provide protection. His views are as modern as today's expression of preventive medicine and public health.

Dr. Playter continued his *Journal* until 1893 when the problems of publication finally overpowered his resources. At this time he was instrumental in establishing the forerunner of the Canadian Public Health Association, the Dominion Sanitary Institute. Its existence was short-lived and it was not until 1911 that the Canadian Public Health Association was organized. For two years preceding it Dr. Duncan M. Anderson and Dr. L. M. Coulter undertook the publication of a journal in public health acquiring the publication entitled *The Therapist and Sanitary Engineer*. In fact, the organizing of the Canadian Public Health Association grew out of the stimulus of the *Public Health Journal*.

Members of the Association will always remember the great contribution made to the Association in its organization and development by our elder statesman in public health, Dr. George D. Porter, who served as the first Treasurer and financially assisted the *Journal* in its difficult early years. Subsequently, Dr. Porter served four terms as President of the Association. To Dr. Gordon A. Bates who is known throughout Canada for his devoted service in public health, the Association is indebted for the editing of the *Journal* from 1918 to 1928, a period during which the Association continually faced financial problems.

In 1928, it was decided that the Association could best serve the advancement of public health in Canada by serving as the professional society of all those engaged in public health work in Canada. This was the turning point in the history of the Association. The Association purchased the *Journal* from the group of members which had carried the burden and, counting on continued good economic conditions, assumed full responsibility. However, the ten years of financial depression that followed made publication of the *Journal* most difficult. Barely had the depression ended when World War II limited the meetings of the Association and reduced greatly the number of scientific papers. These difficulties are forgotten in the encouraging progress of the past decade.

Reference to the story of the *Journal* is made in order that we may appreciate that the *Journal* which we have today and its reputation as a scientific medical publication are the result of the work of its members in past years. The *Journal* is the Association's heritage and on the past the future can be built. The *Journal* can accept the challenge of today that public health and the practice of preventive medicine may together provide solutions to the problems of chronic diseases, of aging, mental diseases and of accidents. These problems in public health demand the attention of all public health workers. The *Journal* can contribute much to their solution and in so doing continue to share in the advancement of public health in Canada.

**ASSOCIATION NEWS**  
**Atlantic Branch**  
**SEVENTH ANNUAL MEETING**  
**CORNWALLIS INN, KENTVILLE, NOVA SCOTIA**

November 6, 7 and 8, 1957

Registration and Information Service will be at Convention Headquarters, the Cornwallis Inn, Kentville, and will be open Tuesday evening, November 5, 1957, from 8:00 to 10:00 p.m.

*Program*

**TUESDAY, NOVEMBER 5, 1957**

8:00 p.m.—Meeting of the Executive

**WEDNESDAY, NOVEMBER 6, 1957**

8:30 a.m.—Registration

9:30 a.m.—Address of Welcome—Samuel Marcus, M.D.

9:40 a.m.—“Industrial Nursing and Public Health” Mrs. Greta Scott, R.N., Senior Nurse, Medical Centre, Mersey Paper Co. Ltd., Liverpool

10:15 a.m.—“Pathology of Pneumonias in Infancy” W. A. Taylor, M.B., Ch.B., Professor of Pathology, Dalhousie University

11:00 a.m.—Recess—Coffee

11:20 a.m.—“Recent Developments in Cancer Research” Ian MacKenzie, M.D., M.B.E., F.R.C.S., Professor of Surgery, Dalhousie University

General Session: Chairman, J. C. Wickwire, M.D.

2:00 p.m.—“Heart Disease as a Public Health Problem” R. C. Dickson, O.B.E., M.D., F.R.C.P.(C), F.A.C.P., Professor of Medicine, Dalhousie University

2:45 p.m.—“Accident Prevention” A. L. Murphy, M.D., F.A.C.S., Assistant Professor of Surgery, Dalhousie University

3:15 p.m.—Panel on “Behaviour Problems in Children” Moderator: Clyde Marshall, M.D. F. A. Dunsworth, M.D., Associate Professor of Psychiatry, Dalhousie University  
Henry Ross, M.D., Associate Professor of Paediatrics, Dalhousie University  
Miss Marjorie A. Cook, M.A., Director of Special Services, Special Services Department, Board of School Commissioners, Halifax

6:45 p.m.—Reception, Cornwallis Room

7:30 p.m.—Annual Dinner, Ball Room

Courtesy the Department of Public Health of Nova Scotia

Speaker: Hon. R. A. Donahoe, Minister of Public Health and Welfare, Attorney-General, Province of Nova Scotia

10:00 p.m.—12:00—Dance: Cornwallis Room

**THURSDAY, NOVEMBER 7, 1957**

General Session: Chairman, R. C. Zinck, M.D.

9:00 a.m.—Business Meeting

9:45 a.m.—“Industrial Medicine”

F. Dean Kemper, M.D., Regional Physician, Imperial Oil Limited

10:15 a.m.—“Refuse Disposal”

Frank Graham, C.S.I.(C), Chief Sanitary Inspector, City of Halifax

George Leahy, C.S.I.(C), Sanitary Inspector, N.S. Department of Public Health

10:45 a.m.—Recess—Coffee

11:00 a.m.—“Vital Statistics in Nova Scotia”

H. E. Naugler, Asst. Deputy Registrar General, Province of Nova Scotia



**11:30 a.m.—“Trends in Treatment—A Review of the National Health Picture”**

Charles Roberts, M.D., Principal Medical Officer—Mental Health, Department of National Health and Welfare

Afternoon Session: Chairman, Miss Phyllis Lyttle, R.N.

**2:00 p.m.—Symposium: “School Health”**

Moderator: Miss Frances Lytle, R.N., Director of Nursing Education, Victoria General Hospital

“Physical Fitness”—Hugh Noble, B.Sc. (Ph.Ed.), Director of Physical Fitness Branch, N.S. Department of Education

“Nutrition”—Miss Hazel Roland, B.Sc., Director of Nutrition Division, N.S. Department of Public Health

“Role of the Nurse”—Mrs. Nellie Crowe, R.N., School Nurse, Truro

“Role of the Physician”—A. S. Arneil, M.D., Director of Maternal and Child Health, City of Halifax

**4:00 p.m.—Afternoon Tea at the Nova Scotia Sanatorium**

Host: Hon. R. A. Donahoe, Minister of Public Health, and Mrs. Donahoe

Evening Session: Section on Diseases of the Chest sponsored by the Medical Section, Nova Scotia Tuberculosis Association—Chairman: W. I. Bent, M.D., D.P.H.

**7:00 p.m.—“Outbreak of Tuberculosis in a Public School”—V. K. Rideout, M.D., D.P.H.,**  
Divisional Medical Health Officer, N.S. Department of Public Health, Yarmouth**7:30 p.m.—“Reactions to Antimicrobials”—D. S. Robb, M.D., Medical Superintendent,**  
Roseway Hospital, Shelburne**8:00 p.m.—“Cystic Disease of the Lung”—H. Holden, M.D., F.C.C.P., J. J. Quinlan,**  
M.D., F.C.C.P., Nova Scotia Sanatorium, Kentville**8:30 p.m.—“The Fundamental Aspects of Antibiotic Medication”—G. D. Denton, M.D.,**  
Wolfville**9:00 p.m.—Meeting of Medical Section, Nova Scotia Tuberculosis Association****FRIDAY, NOVEMBER 8, 1957**

General Session: Chairman, J. E. Hiltz, M.D., D.P.H.

**9:15 a.m.—“Maternal and Infant Mortality and Morbidity—Our Present Status in Nova**  
Scotia”—H. B. Colford, M.D., D.P.H., Director of Child and Maternal Health and Communicable Disease Control, N.S. Department of Public Health**9:45 a.m.—“Laboratory Findings in Infantile Diarrhoeas”—D. J. Mackenzie, M.D.,**  
Director of Laboratories, Pathological Institute**10:15 a.m.—“Newer Trends in Nursing Services”—Miss Electa MacLennan, R.N., M.A.,**  
Director of School of Nursing, Dalhousie University**10:45 a.m.—Recess—Coffee****11:00 a.m.—“Food Inspection”—A. Hollett, Regional Director, Food and Drug Directorate,**  
Department of National Health and Welfare**11:30 a.m.—“Status of Fluoridation in Eastern Canada”—W. Gordon Dawson, D.D.S.,**  
D.D.P.H., Director, Division of Dental Services, N.S. Department of Public Health

For Reservations Please Contact the Manager, Cornwallis Inn, Kentville

## NEWS NOTES

### International

The 85th annual meeting of the American Public Health Association will be held in Cleveland, Ohio, November 11-15, 1957 under the presidency of Dr. John W. Knutson, D.D.S.

### School of Hygiene, University of Toronto

The Annual Breakfast Meeting of the Graduates' Organization, School of Hygiene, University of Toronto will be held in the Hotel Statler, Cleveland, at 8.00 a.m., November 13, 1957, at the time of the Annual Meeting of the American Public Health Association. A large attendance is requested because the future constitution of the Organization is to be discussed.

### Federal

Miss D. M. Percy, chief nursing consultant, Department of National Health and Welfare, participated in a panel discussion at the annual meeting of the Association of Nurses of Prince Edward Island and was guest speaker at the Association's annual banquet late in August.

R. J. Mitchell, M.A., formerly of Vancouver, has joined the staff of the Civil Service Health Division, Department of National Health and Welfare, as consultant in social services.

The Advisory Committee on Public Health Engineering met in Ottawa in mid-August. The Committee is composed of provincial public health engineers for whom these meetings afford an excellent opportunity to review procedures and problems of mutual interest.

Miss Esther J. Robertson, nursing consultant in the Child and Maternal Health Division, Department of National Health and Welfare, conducted an institute on maternal health for public health nurses in St. John's, Newfoundland, in mid-September.

Visitors from overseas to the Department of National Health and Welfare in August included Dr. George Clark, deputy chief medical officer, Ministry of Health, England, and Dr. Walter Perry, head of the biological standards division of the National Institute for Medical Research, Medical Research Council, England. These physicians were visiting Canada and the United States to discuss the present position regarding the safety and potency of poliomyelitis vaccine.

John R. Veit, administrative officer at the Laboratory of Hygiene, Department of National Health and Welfare, for the past several years left the Department in mid-August for an administrative position with the National Gallery.

Television is now being used more extensively for health education than in any previous year, the Information Services Division, Department of National Health and Welfare, reports. Slides on dental health, prepared by Information Services, have been used during the summer as spot announcements on three Ontario TV stations. Slides on nutrition are being arranged for showing on the same stations. During the summer the CBC's French-language TV network presented a series of 14 programs under the general title "Aventures de l'enfance". The series consisted of the "ages and stages" films on child-training and some of the films on child and maternal health sponsored by the Department of National Health and Welfare. Each film was followed by a panel discussion. Despite the popularity of television, the radio series entitled "Here's Health" continues in demand and is currently being broadcast over 101 privately-owned stations—65 in English and 36 in French. In many instances these programs are followed by short talks prepared by staff members of health units or local health departments.

Following consultations with the Dominion Council of Health, a change has been approved in the definition of a "crippled child" and in the scope of services eligible for assistance under the Crippled Children Grant of the National Health Program. For purposes of this grant a "child" means a person who has not attained the age of 18 years. The scope of the grant has been broadened to permit assistance "for services to physically handicapped children".

### Prince Edward Island

Another milestone in the public health program of Prince Edward Island was reached early in August with the formal opening of Hillsborough General Hospital in Charlottetown. Hon. Dougald MacKinnon, Minister of Public Works, presented the keys of the hospital to Hon. M. L. Bonnell, Minister of Health. The hospital will serve those suffering from nervous and mental disorders and has the latest equipment for the diagnosis and treatment of emotional disturbances and mental illnesses. Dr. A. J. Murchison is Superintendent of the hospital which is staffed by four psychiatrists, one psychologist, a radiologist, cancer and T.B. specialists, medical consultants and a dentist. Facilities are available for general diagnostic and treatment services for mental patients with physical illness.

**New Brunswick**

Dr. J. R. Mayers has resigned his position as Director of Maternal and Child Health to become Medical Health Officer for the Norfolk County Health Unit in Ontario. Dr. Mayers will be located in Simcoe and his duties will commence in October.

Mr. Edward Sewell, who recently completed a two-year course at McGill University leading to a Master of Social Work Degree, has been appointed as Rehabilitation Officer with the New Brunswick Department of Health and Social Services.

The construction of the Forest Hill Rehabilitation Center in Fredericton is progressing according to schedule and the Center should be ready for occupancy in the late fall. This new center is a project initiated by private citizens in the province interested in providing additional and necessary facilities for the rehabilitation of disabled citizens of New Brunswick. The Forest Hill Rehabilitation Center Inc. has been guaranteed \$70,000 by federal and provincial government grants towards the total cost of construction which is estimated at \$250,000. The balance of the cost is to be borne by interested business firms and citizens throughout the province. To be operated on a non-profit basis, the cost of operation is to be paid for on a per diem basis by organizations and agencies using the service. When completed the center will provide services for 20 in-patients and nearly 60 out-patients. The president of the Forest Hill Rehabilitation Center Inc. is Mr. Stan Cassidy of Fredericton. Mr. Vernon Olive, who for the past several years has been on the staff of the New Brunswick Health Department, Accounting Division, has been appointed administrator.

The establishment of paediatrician services in Kent and Northumberland Counties on a year's trial basis has been announced by the Hon. Dr. J. F. McInerney, Minister of Health and Social Services. The Department has secured the services of Dr. Maurice Babineau to conduct the trial phase of this maternal and child health project. He will see children referred by general practitioners and public health nurses at child health conferences in the rural sections of the two counties included in the trial area.

At Saint John the Naval Division H.M.C.S. Brunswick announced that Surgeon Captain C. M. Oake, R.C.N.(R) is leaving St. Martins to serve as Medical Health Officer on the staff of the Halton County Health Unit in Oakville, Ontario.

Dr. J. Gilbert Turner, Executive Director of the Royal Victoria Hospital Montreal, has been appointed consultant on health in-

surance to the Minister of Health and Social Services of New Brunswick, the Hon. Dr. J. F. McInerney.

**Ontario**

At the annual convention in Winnipeg of the Canadian Dental Association, Dr. W. L. Hutton of Brantford was given honorary membership in the Association in recognition of his outstanding contributions to public health in the fluoridation of water.

Dr. W. H. Weber, assistant superintendent, Ontario Hospital, Hamilton, has been appointed superintendent of the new Ontario Hospital, North Bay, and Dr. K. W. Runnalls, a senior physician on the staff of the Ontario Hospital, St. Thomas, has been appointed assistant superintendent.

Dr. B. A. Boyd has been appointed assistant superintendent, Ontario Hospital, Hamilton.

Dr. G. C. Brink, Director since 1935 of the Division of Tuberculosis Control, Department of Health of Ontario, was honoured with Life Membership at the seventy-seventh annual meeting of the Ontario Medical Association in May.

Dr. C. M. Hincks, was honoured by the University of British Columbia at its May Convocation when the degree of D.Sc. was given to him in recognition of his work as head of the Mental Health Association.

The Rockefeller Foundation has granted \$110,000 to the University of Toronto for studies of general medical practice in Canada. The money will be used to extend the survey of general practice which is being carried on by the School of Hygiene in collaboration with the College of General Practice in Canada. The purpose of the project is to determine the scope of the general practitioner's work and to devise methods of coping with the problems which confront the physician in general practice in this era of rapid changes in the field of medicine.

**Saskatchewan**

The growing industrialization of Saskatchewan particularly in the field of mining has led the Department of Public Health to expand its services into the occupational health area. Dr. Norman Williams has been appointed director of the newly established Division of Industrial and Occupational Health. Dr. Williams came to Saskatchewan from England where he was born and educated.

The Saskatchewan Department of Public Health has started immunizing a quarter of a million adults against poliomyelitis. First

and second doses of Salk vaccine from the Connaught Laboratories, Toronto, will be given men and women born from 1917 to 1940 inclusively. The third dose will be given next spring. Tentatively, at least, the department will bear the entire cost of the vaccine, \$375,000, but there will be discussions later with the federal authorities about the possibility of sharing. At present children up to and including the age of 16 have received protection—80 per cent are estimated to have received either second or third doses of the vaccine. Polio vaccination is now a routine activity in the child health centers of the organized health regions, so that children born in 1957 will receive the protection along with smallpox, diphtheria, whooping cough, and lockjaw immunization routinely after their third month of life.

A rheumatic fever prevention program for Regina Rural Health Region has been approved by the South-Eastern Medical Society as well as the Regina and District Medical Society. Dr. M. K. Dehnel, regional medical health officer, and the regional board of health have studied the possibilities of inaugurating a joint program with the City of Regina Health Department and efforts are being made to have it established. In Saskatchewan, rheumatic fever causes 50 per cent of all deaths from heart disease between the ages of 5 years and 35 years. It has been estimated that at any one time the number of persons with the disease still in an active form is about 1 per 1,000 which means approximately 80 persons in our health region. The control program will emphasize prevention of streptococcal infection in the highly susceptible rheumatic subject thus reducing the possibility of rheumatic fever recurrence. Continuous penicillin treatment has proven satisfactory in the prevention of rheumatic fever or its recurrence. The prevention program will be under the control

of a committee of doctors from the Regina and District and the South-Eastern medical societies. The committee will be composed of a pediatrician, an internal medical specialist, a pathologist and three or four general practitioners (from the City of Regina and Regina Rural Health Region). Drs. M. K. Dehnel and G. E. Walton, medical health officers of the health region and the City of Regina, respectively, will serve on the committee and act as secretaries. The committee will act in a consultative capacity, reviewing all cases referred by general practitioners and, where necessary, providing penicillin which will be supplied free by the Provincial Department of Public Health. Individual cases will be under the supervision of the family physicians and assistance will be provided by public health nurses who will make initial and quarterly home visits. They will check on home conditions, see that penicillin is being taken and will renew the patient's supply of the drug. The nurses will advise the patients to report any infections or sickness to the family doctors for routine check-up.

#### British Columbia

The medical health officers of British Columbia met in Victoria early in September to discuss problems and phases of the public health program. Chairman of the meetings was Dr. G. F. Amyot, Deputy Minister of Health.

On September 19-20 all senior public health nurses on the staff of the Provincial Health Branch met in Nanaimo for a special institute on maternal and child health. Miss Aileen Hogan, Consultant, Maternity Nursing, Maternity Centre Association of New York, conducted the course.

Dr. A. W. L. Vogelesang has been appointed director of the Selkirk Health Unit at Nelson.

#### Obituary

J. HAROLD SHAW, M.D., C.M. D.P.H.

On June 28, Dr. J. Harold Shaw died suddenly in Charlottetown of coronary heart disease at the age of 50. Dr. Shaw was one of the best known physicians in the Maritimes serving as Provincial Pathologist and Director of Public Health Laboratories. He was a leader in the Prince Edward Island Division of the Canadian Medical Association and had recently served a two-year term as President.

A native of Prince Edward Island, Dr. Shaw received his preliminary education at Prince of Wales College and Mount Allison University. He was a graduate of Queen's University in medicine and received the

Diploma in Public Health of the University of Toronto. He was certified as a specialist by the Royal College of Physicians and Surgeons of Canada in pathology and public health. He served with distinction in World War II as pathologist with No. 7 General Hospital R.C.A.M.C.

Canadian medicine can ill afford to lose such a leader whose keen interest in public health reflected his desire to see the benefits of medicine available to all. He was a leader among both public health workers and practising physicians.

To Mrs. Shaw and their five daughters the Canadian Public Health Association expresses its deepest sympathy.

